2015

Bridging the Blue-Green Divide: The Role of Environmental NGOs in Tackling Environmental Problems in Taiwan

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In partial fulfillment of a Bachelor of Arts Degree in Environmental Analysis,
2014-2015 academic year, Pomona College, Claremont, California

Readers:
Professor William Ascher
&
Professor Melinda Herrold-Menzies

Acknowledgements

Many thanks to…

The Schulz Fund for Environmental Studies, funded by Jean Shulz, for funding my sophomore year summer research

The Pomona College Summer Funding Internship Program for funding my junior year summer internship

Professor William Ascher, Professor Melinda Herrold-Menzies, Professor Char Miller, and Professor Dru Gladney for the constant guidance and mentoring throughout the thesis writing process

All my interviewees, especially Professor Chi Chun-chieh, Dr. Lin Yih-ren, Mr Lu Yi-chih, Ms Cheryl Robbins, Ms Sinan Mavivo, Mr Lin Chang-mao, Ms Zhao Cui-lian, Ms Lin Yu-nen, Mr Chen Zhong-ming, Ms Wan Shu-feng, and Mr Ba Yi-cheng, who shared a part of their life with me and who helped shaped the thesis into what it is today,

Residents of Leye Village, Lijia Village, Iratai Village, Sinvaudjan Village, Butai Village, Rinari Village, and Namasia Village for their warmth and hospitality

Professor David Blundell for introducing me to contacts in Taiwan and orientating me during my first few days of fieldwork

The passionate environmentalists at Wild at Hearts Legal Defense Association, especially Mr Robin Winkler, Ms Yang Shi-hui, Ms Tsai Ya-ying, Ms Lu Shih-wei, Mr Li Mo-tang, Ms Zhong Yu-shan, Ms Jian Jie-yu, who gave me the opportunity to learn so much about environmental organizing in Taiwan and what it means to fight for your beliefs

Spencer Heim for selflessly agreeing to proofread my thesis

Fellow EA comrades, especially Guo Yuqiao, Luo Yi, Michael Shapiro, and Chiara Dorigo for the endless encouragement and solidarity

My family and friends, for all the unconditional love and support, ever and always

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Preface

In the summer of 2014, I embarked on a nine-week internship with Wild at Hearts Legal Defense Association, an environmental non-governmental organization (NGO) based in Taipei, Taiwan, that aims to solve environmental problems through legal mechanisms. I arrived during an unstable time in Taiwanese politics, with the Sunflower Student Movement just ending a month before. A student-led civic movement aimed at blocking the passing of the Cross-Strait Service Trade Agreement (CSSTA) with China without a clause-by-clause review by the ruling Kuomintang (KMT) party, it led to more than 10,000 protestors surrounding and occupying the Legislative Assembly and Executive Assembly. Many involved in the protests were students from the top universities in Taiwan, aided by workers from various civil organizations and NGOs. A few weeks later, more than 50,000 protestors gathered in front of the Presidential Office in Taipei to demand a halt on the construction of the fourth nuclear power plant in Taiwan, which resulted in hundreds of riot police using water cannons to disperse the crowd.

Thus, during the period of my internship, anti-government rhetoric and views dominated much of my conversations with people in NGOs and those involved in civil movements. It seemed that there was resentment between the environmental movement and the government, with the two parties playing opposing sides on a constant battlefield. Many environmental activists accused the government of being pro-capitalist and anti-environment, working in cahoots with corporations for financial gains, at the expense of the people's health and welfare. At the same time, the

government viewed environmental activists as anti-development, unable to grasp the economic realities of running a country. Under such a strained relationship, the environmental groups consistently found themselves pitted against the government in environmental issues, with individual cases becoming long, drawn out lawsuits. Some of these cases managed to eventually halt the environmental destruction, while others became a way for corporations to buy time to finish their projects. This became the motivation for me to embark on my thesis, which aims to investigate whether such modes of interaction with the government benefit the environmental movement.

Introduction

Taiwan certainly does not have an impressive environmental track record. A booming industrial sector in the 1970s and a rapid increase in motor vehicles have caused enduring air pollution in Taiwan, with the Pollutant Standard Index (PSI) going over unhealthy levels for almost 49 days in 1985 (*Yearbook of environmental statistics*, 2006). However, recent years have seen drastic improvements in air quality, with the number of unhealthy days dropping from 19 in 2000 to just 4 in 2012 (*Yearbook of environmental statistics*, 2013). That said, cancer, and lung cancer in particular, continues to be the leading cause of death in Taiwanese men (although smoking also does play a role) (Selya, 2004). Meanwhile, testing by the Taiwan Environmental Protection Administration has revealed that 37.3 percent of rivers in Taiwan suffer from pollution in 2012, just a slight improvement of 37.6 percent from the levels ten years ago in 2002 (*Yearbook of environmental statistics*, 2013). Meanwhile, new developments either continue to encroach on forestland that is supposedly protected or are situated in areas without the prior proper consultation of those currently living near or around it. Flora and fauna continues to be threatened by habitat destruction and illegal hunting, with over 212 native animals on the national protected species list, of which 41 are endangered, 123 are rare or valuable, and 48 deserving of conservation (Forestry Bureau, 2010). Some, like the Formosan sika deer and the Formosan clouded leopard, were driven to extinction. Nuclear energy also continues to be a highly divisive issue in Taiwan, with opponents arguing that the risk of operating nuclear plants on a tectonically active island far outweighs the benefits of nuclear energy. Proponents, on

the other hand, firmly believe nuclear energy has played a crucial role in keeping electricity costs low.[1] One of the main issues of contention is the dumping of nuclear waste on Orchid Island without any prior information or consultation with the indigenous Tao people. In the aftermath of Fukushima and an increasingly vocal Tao population, calls for a "nuclear-free" Taiwan have been louder than ever.

It will be appropriate to apply the Environmental Kuznets Curve (EKC) to Taiwan's situation, modeled after the original Kuznets Curve used to graph inequality in a country as its income per capita increases. The EKC predicts that degradation and pollution will increase in the early stages of economic growth, but such a trend will reverse once the country exceeds a certain level of income per capita as the government begins to invest in environmental-friendly technologies (Dinda, 2004). At high-income levels, economic growth may actually lead to greater support and opportunities for environmental improvement. Although there have been criticisms about the real-world applicability of the EKC (see Dasgupta, Laplante, Wang, & Wheeler, 2002; Harbaugh, Levinson, & Wilson, 2002; Stern, 2004), studies have shown that Taiwan has indeed followed the EKC in certain environmental indicators, such as nitrogen dioxide and carbon monoxide levels, but not in others, such as overall air pollution and water pollution (M.-F. Hung & Shaw, 2004). Thus, even though the environmental standards of Taiwan might have increased over the past few years, it is questionable whether there is a matching increase in actual environmental performance.

[1] Based on interviews conducted with members of the Taiwanese public.

Environmental NGOs have played an important role in the fight for environmental justice on the island. Their ability to organize and raise public awareness has been crucial in garnering support for local causes, mobilizing members of the public to bring attention to environmental issues that might otherwise been overlooked. While these NGOs have definitely brought an end to many environmental problems in the past 20 years, the continued pollution by the government and corporations brings into question the efficacy of the environmental movement on a broader scale. The lackluster environmental record of the country continues until today, putting the ability of the environmental movement to impact state policies into question. Moreover, the anti-government stance of the environmental movement has meant that cooperation between the KMT government and environmental NGOs has been limited, resulting in the environmental movement being able to only claim small victories (e.g. particular environmental cases) rather than have a larger societal impact (e.g. a "nuclear-free Taiwan").

This thesis attempts to provide a brief historical outline of the environmental movement in Taiwan and the unique political situation that has directly affected how the movement has progressed. Thereafter, it looks at some examples of environmental disputes that have occurred in recent years, paying special attention to the ways the environmental movement has interacted with the government. This provides the background to frame the analysis, which will shed light on the reasons for the current state of distrust and antagonistic interactions between the environmental movement and the government. Finally, the thesis evaluates whether such interactions with the

government is helpful for the environmental movement in achieving its goals, while suggesting other possible models of environmentalism in Taiwan.

Much scholarship has been devoted to Taiwan's environmental movement, as the official lifting of martial law in 1987 heralded the blossoming of environmentalism, allowing the study of the "birth" of an environmental movement in such a relatively short amount of time. The intensity and urgency of the ensuing environmentalism underscores the decades of environmental destruction and neglect the island had experienced under the development-focused KMT, which produced some of the worst environmental pollution to be found anywhere in Asia. Many academics agree that the current protest-focused, anti-government environmental movement is very much a result of the political changes that have occurred in the past 20 years, resulting in a movement that views government cooperation with suspicion (M. Ho, 2005b; M. S. Ho, 2003; Y.-S. F. Lee & So, 1999). At the same time, the multi-faceted aspect of the environmental movement has been acknowledged, and scholars have attempted to understand the movement through various frames, including gender (see Kalland & Persoon, 1999, pp. 83–109), religion (F.-L. Shih, 2012, pp. 304–311), and through the depiction of environmentalism in literature (see Thornber, 2012, pp. 84–98). Others have focused on specific environmental issues, especially those that have drawn widespread support or have yet to be resolved over an extended period of time, most notably nuclear power generation (see M.-S. Ho, 2003; Shih, 2012), dumping of nuclear waste on indigenous land (see Fan, 2006a, 2006b; Huang, Gray, & Bell, 2013), and indigenous land rights (see Chi, 2001; Wang, 2012). Quantitative research has also been

conducted on the attitudes that the Taiwanese public hold towards environmental issues and their confidence (or lack thereof) in the government's handling of environmental crisis (see Chen, 2011; H.-H. M. Hsiao, Stone, & Chi, 2001).

While studies on the environmental movement as a whole have been robust, a focus on NGOs, arguably one of the main drivers of the movement, has been lacking. Moreover, literature on the subject has often regarded the political structure of Taiwan as stunting environmental movements without acknowledging the various ways local players and grassroots organizations are resisting or working within the structure to attain their own agency. This almost defeatist stance towards the failures of Taiwan's political landscape in dealing with environmental issues has produced literature evaluating the future problems that the environmental movement will face; however, it lacks concrete suggestions of alternative models that the environmental movement can function in to deal with or to sidestep these problems (see Williams & Chang, 2012, pp. 179–181). The highlighting of possible alternative models is crucial in merging practice with theory, avoiding the common criticisms of critical theory as fundamentally negative analysis focused on discourse without the establishment of new ideas or possibilities (Rorty, 1986).

It is especially important to question the interaction between environmental groups and the government in Taiwan, as the environmental movement started out subsumed under the pro-democracy movement during the authoritarian KMT rule. Early movement leaders have even openly stated that environmentalism was merely a tool during the 1970s and 1980s to achieve the ultimate goal of democracy and political

control (S. W. Lu, interview, Dec 2, 2014). A similar parallel can be found in the environmental movement of Eastern European Countries in the 1980s, when an active political participation of environmental movements in the overthrowing of the Communist regime resulted in a gradual disengagement with local perspectives that jeopardized the movement's perceived commitment to environmentalism. Case in point is Slovakia, where environmental associations instrumental in bringing down the old Communist regime broke into different political factions based on political allegiance prior to the revolution. Thus, while many environmentalists gained key positions in the regional state environmental authorities, the lines between environment and politics were blurred, and the general public's environmental concern soon waned (Baker & Jehlicka, 1998). The environmental interest has lost its deep roots in the value system of the Slovakians, while environmentally harmful projects have been transformed into symbols of achievement. As a result, the merging of political and environmental movements will have repercussions when politics and environment becomes conflated, threatening the relevance of the environmental movement and its support among original supporters. While this has not happened in Taiwan, the particular history of Taiwan's environment movement calls for a probing into its past and present conditions to prevent a slip into irrelevance or the forgoing of key environmental fights.

Chapter 1 provides a brief historical timeline of Taiwan's environmental movement, with a focus on the country's changing political landscape and how it has impacted the general attitude of the movement. It also investigates how the relatively young democracy of Taiwan has affected the nation's environmental policies.

Chapter 2 focuses on three outstanding environmental cases studies in Taiwan to form a backdrop in which to discuss the environmental movement in Taiwan. These case studies are the anti-nuclear movement, the Central Taiwan Science Park Phase Three, and the Kuokuang Petrochemical Plant. Through these examples, the ways local and national environmental movements have operated in each case are shown, highlighting the different conditions that each of the issues faced, and the dynamics between NGOs and the government are further illustrated.

Chapter 3 evaluates the relationship and modes of interaction between the environmental movement and the government, while studying the ways the movement resists the political structure that has consistently limited their ability to enact practical changes. The chapter applies anthropological and political theories to players in the movement, looking at how they attain agency in the situation to attain their motives. In particular, we will refer to Pierre Bourdieu's writing on practice theory as a way to study how humans attain agency within a social structure, while taking into account Sherry Ortner's update to the theory and her new definitions of what agency could entail. The paper will also analyze the environmental movement's fight for environmental justice based on Kristin Shrader-Frechette's separation of environmental justice into distributive justice and procedural justice. While the former looks at the equal distribution of environmental burden and benefits, the latter is more concerned about equal access to procedures that lead to the outcomes of environmental consequences.

Finally, Chapter 4 aims to provide a possible model that environmental NGOs and the environmental movement can function in while creating a movement that can

be more inclusive socially and impactful politically. Some alternative modes of operation that go beyond traditional political structure will also be examined while at the same time evaluating their feasibility, advantages, and drawbacks. This includes a consideration of Sigmund Freud's structural model of the psyche, specifically the three apparatus of id, ego, and super-ego, and how the environmental movement should seek to appeal to them.

The research will consist mainly of archival and literature research, supplemented by my personal observations and experiences interning at an environmental NGO in Taiwan. Participation and immersion in the movement allowed an understanding on an embodied and intuitive level of the dynamics and problems present within the movement. Site visits and court-hearing attendance enhanced my personal grasp and understanding of environmental problems, echoing Boasian views that fieldwork provides the research with the opportunity to "unravel the processes that are going on under our eyes" to understand the fundamental problems. Interviews were also conducted over the course of two summers with members of the environmental movement and citizens affected by the environmental problems to obtain their views of both the movement itself and the government's interaction with the movement.

This paper ultimately goes beyond defining current modes of interaction between the environment movement and the government, opening avenues where they can be analyzed and evaluated. More importantly, it suggests possible directions that the movement can look towards as it seeks to expand its reach and effectiveness. Through the study of Taiwan's environment movements, broader lessons about social

movements can be learnt, including insights that can be transposed to other nations or even to transnational environmental movements.

Chapter 1: A Background of Taiwan's Environmental Movements

1.1 Taiwan's Geographical Conditions

To understand the reasons for environmental problems in Taiwan, one has to look at the geography that has defined the fundamental realities of the nation. First of all, Taiwan is a mountainous nation dominated by five main mountain ranges running northeast to southwest along the island, with more than 200 peaks that are over 3000 meters in height. These mountain ranges give way to the fertile coastal plains of Western Taiwan facing the Taiwan Strait, while Eastern Taiwan continues to be mountainous landscape, with mountains rising up from the Pacific Ocean all along the East Coast. As a result, the population distribution of Taiwan's 23 million population is highly skewed, with more than 22 million living in the lowlands west of the mountain ranges, and only one million living in and east of the mountain ranges. Thus, with alluvial plains below 100 meters occupying less than a third of the island, it is more accurate to observe that Taiwanese are in effect occupying a land area only slightly smaller than the US state of Delaware.

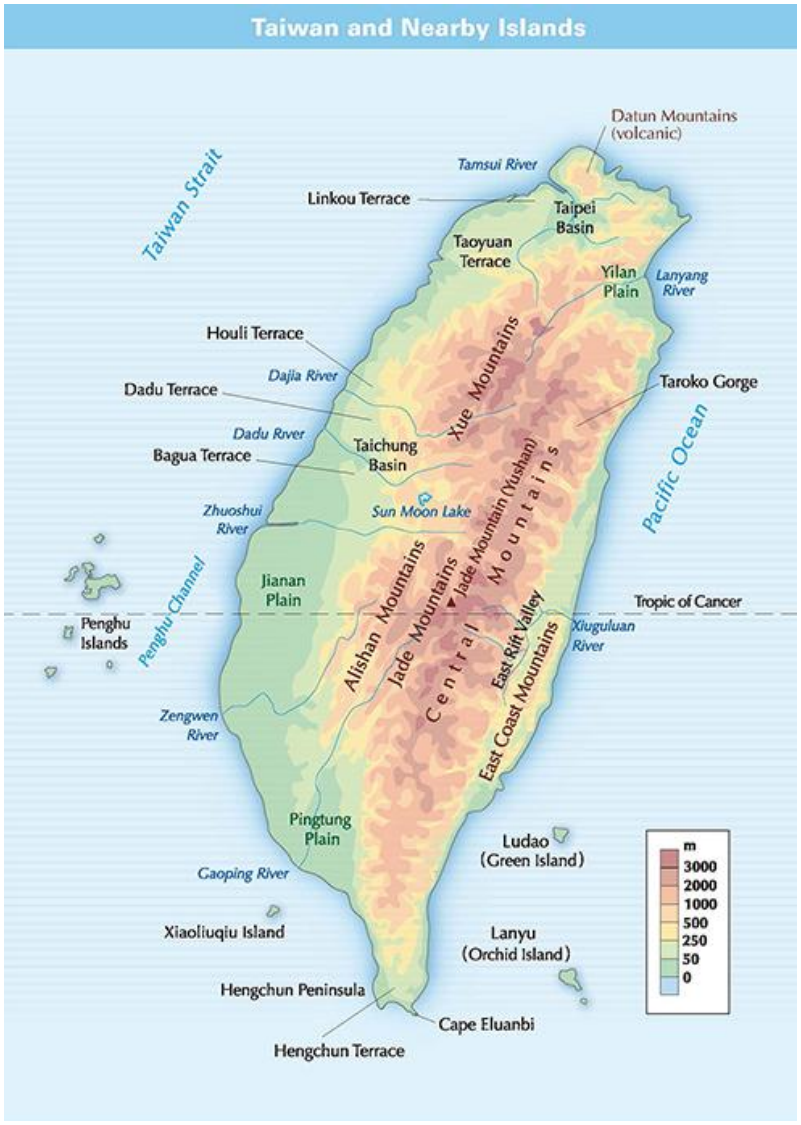

Fig 1: Geographical map of Taiwan showing positions of mountain ranges and plains (Source: Taiwan Executive Assembly)

In terms of climate, Taiwan experiences hot summers and mild winters due to its position on the Tropic of Cancer and the moderating effect of the surrounding oceans. Even though the northern half of Taiwan lies above the northern margin of the subtropical climate belt, there is no frost in the lowlands, with snowfall confined to the highest mountain elevations, and occurring only in winter. With abundant rainfall, the island used to be covered with lush natural vegetation, ranging from subtropical

evergreen forests to monsoonal rainforests. These forests are home to over 60 species of mammals, 500 species of birds, 90 species of reptiles, 30 species of amphibians, 150 species of fishes, and thousands of species of insects (Ferry, 2014). 20 percent of the above animal species are found only on the island, including the Formosan Rock Macaque and the Formosan Serow. It is little wonder that when the Portuguese first set their sight on the island, they named it "Ilha Formosa", literally meaning "Beautiful Island."

Nevertheless, such mild coastal weather also comes as a price, as Taiwan lies right in the middle of the typhoon zone of Southeast and East Asia, suffering devastating typhoons during the months of June to September, which trigger landslides and flooding. At the same time, its position over various geological faults and borders of continental plates results in frequent earthquakes and the presence of a few dormant volcanoes. Apart from the destruction caused by the natural disasters, the frequency and intensity of these events have also become a key argument for the anti-nuclear energy movement, which the paper will describe in greater detail in ensuing chapters.

The climate has also allowed Taiwan to enjoy a year-round growing season, with 30.3 percent of total land area dedicated to intensive agriculture. Since the large-scale arrival of Han Chinese from the mainland in the 17th century, there has been widespread clearing of alluvial lowlands for agriculture, driving the indigenous population further into the mountains. Further exploitation of the island's natural resources continued during Japanese rule from 1895 to 1945, when Taiwan was ceded to Japan in the Treaty of Shimonoseki after the Chinese lost the First Sino-Japanese War in 1985 (Williams &

Chang, 2012). The Japanese army crushed all indigenous Taiwanese rebellion on the island, turning the island into a resource pool to fuel the rapid industrialization in Japan. Rivers were dammed, virgin forests felled for timber, and gold and copper extensively mined. This marked the start of the rapid decimation of the island's natural resources.

1.2 The Era of Martial Law

The landscape of Taiwan has experienced large-scale alteration since the 17th century, with the arrival of Chinese settlers from Mainland China and later colonization by the Japanese. However, we will focus mainly on the history of the island during the latter half of the 20th century, as it was during this time that environmental and democratic movements gained traction.

After the Communists gained control over the majority of Mainland China following the civil war between the Communists and the KMT, the KMT leaders retreated to the island of Taiwan, bringing with them over 2 million KMT forces and refugees. There, the leader of the KMT, Chiang Kai-shek, established a government in exile, with the intention of retaking Mainland China from Taiwan. This militaristic stance soon evolved into a more economic one – the belief that strong economic growth will not only legitimize the KMT government, but will also give credence to the KMT's governing ability when juxtaposed against communist China (M. Ho, 2011). This will not only allow Taiwan to defend itself against any possible attacks by the Communists, it will also provide them with the ability to somehow retake Mainland China in the near future. To this end, the KMT leaders believed that a strong leadership with little or no

political dissent would allow for more efficient implementation of their pro-economic policies, resulting in the establishment of martial law in 1949, only ending 38 years later in 1987.

Under this system of martial law, pro-development policies could be implemented without the need for consultation, environmental impact assessments, or parliamentary debate. This naturally had a profound impact on the island's environment, as the government was given a free rein to do what they want, without any public influence on the government's decision or another party to provide the checks and balances. One of the most high-profile public works project during this time was the Central Cross-Island Highway, which bisects the island in half from East to West, passing the mountainous interior of Taiwan and the upper Tachia river basin. Even during Japanese rule, the Tachia basin was lightly inhabited and relatively inaccessible, with the majority of the inhabitants being Atayal aborigines who practiced hunting, gathering and limited shifting cultivation (Williams & Chang, 2012). Although the Japanese had attempted to exploit (but also conserve) the mountain resources while aiming to suppress and assimilate the aborigines, the inaccessibility of the river basin had protected it from serious exploitations.

For the KMT government, the interior was a region with immense natural resources and development potential that would go to waste if not exploited. The massive population increase, rapid industrialization that saw the increased need for electricity generation, the need for lumber, the desire to link the two sides of the island, and the need to find productive work for thousands of KMT soldiers all resulted in the

government deciding to build a highway right across the heart of the island (Williams & Chang, 2012). The Tachia River basin was chosen as the river had one of the largest annual discharges of water in the country, with a steep gradient from the source to the mouth, making it ideal for hydroelectric power production. The high altitude also allowed for gentle climates, which opened up agricultural opportunities for growing temperate fruits and vegetables. Interestingly, the mountainous nature of the area was also viewed to be high in touristic appeal, boosting the tertiary industry of the island.

The completed highway was an architectural feat that started from near sea level at the coast and rose to almost 3,200 m at its highest point. The originally envisioned "highway" was a twisting two-lane road, taking 4 years to build, with 226 workers killed and 780 injured (Taroko National Park Headquarters, 2009). Most of the workers were from the Vocational Assistance Commission for Retired Servicemen (VACRS) and consisted mostly of retired servicemen. The building of the road involved steep cuts into the mountainsides with the digging of 38 tunnels along the route, and the excavated material was dumped in the valley below with no concern about its environmental impact. Slopes along the highway were also 45-60° in many places, much greater than what is now considered a safe angle of repose (M. Lee, 2004). As a result, landslides became a common occurrence on the highway, with roads closed for long periods of time, especially after the frequent typhoons that batter the island. Moreover, the VACRS also established farms in the Tachia River basin, resulting in a total of 14 VACRS farms in the area. These farms were used as a model to demonstrate how

temperate agricultural products, like apples, pears, peaches and cabbages, could be successfully cultivated in subtropical Taiwan.

Unsurprisingly, soil erosion soon became a major problem, leading to sheet erosion, gullying, and landslides – phenomena exacerbated by the region's weak rock structure, steep slopes, and the island's high annual precipitation, especially during the typhoon season of July to October. The average slope of the fruit orchards was 30-35°m with slopes up to 60° in some areas, even though the government's Mountain Agricultural Resources Development Bureau (MARDB) at that time recommended no cultivation above 28° (Williams & Chang, 2012). The soils were also very shallow, averaging only 20-80 cm, when the recommended minimum depth was 80-100 cm for proper slopeland cultivation (Williams & Chang, 2012). The completion of the Techi Dam at the entrance of the basin in 1973 also led to rapid siltation in the reservoir behind the dam, while large amounts of untreated sewage, chemical fertilizers, and insecticides flowed into the river which provided drinking water for a million people living in the lower basin.

Minimal checks and balances of the government thus allowed for such unregulated developments to occur in Taiwan under martial law, often under the context of modernization and development. When major earthquakes and follow-up quakes that struck central Taiwan in 1999 and 2000 wiped out large sections of the highway, it took 5 years and millions of dollars to rebuild the stretch of road, only for it to be destroyed right before its grand opening in July 2004 by Typhoon Mindulle, which triggered huge landslides and mudflows throughout the island. Typhoon Aere in August

2004 brought on further destructive mudslides, with these futile and repetitive repairs of the Central Cross-Island Highway allowing Taiwanese to see the years of blind development policies that had characterized the martial law era.

One might be led to question the role of the public amidst such wanton environmental destruction up to the 1960s – why were there no environmental movements forming to counter the pro-development policies of the KMT government? Firstly, the KMT government held a tight control over any resistance in the citizen population, resulting in the era of martial law to be also referred to as the "White Terror" in which around 140,000 Taiwanese were imprisoned and about 3,000 to 4,000 executed for their real or perceived opposition to the government (T. Huang, 2005). Secondly, Taiwan was indeed experiencing a strong growth in its economy during this period of time, convincing the people that the rapidly rising income per capita and consumer spending were signals of the increased wealth the island was enjoying. Since politics was a taboo topic during that time, most people were more invested in getting ahead economically, while leaving the governing to the seemingly working government.

It was only around the 1970s that a budding environmental movement began to take shape. This was partly in response to the negative consequences of the pro-development policies pursued by the KMT government, including a widening income inequality gap, appalling air pollution, unregulated water and air pollution from factories, and a visually depressing built environment due to haphazard land-use planning (H. M. Hsiao, Milbrath, & Weiler, 1995). In the 1970s, some Taiwanese scientists and intellectuals began warning the general public about the environmental

dangers, but amidst a restrictive political atmosphere, they were largely ignored. It was only when the effects began impacting the lives of people that they began to realize the trade-off between economic growth and environmental protection, with victims of pollution blaming their plight on the government.

1.3 Growing Democratization

It was in the 1980s that authoritarianism began to decline in Taiwan and the country began its path of democratization. Although an opposition-led human rights demonstration in December 1979 resulted in a full-scale government crackdown, it marked the start for the democracy movement in Taiwan. The opposition continued to challenge the KMT's rule by mobilizing electoral campaigns and publishing political magazines, culminating in the birth of the Democratic Progressive Party (DPP) in September 1986, in defiance of the KMT's warning against setting up political parties (Moody, 1991). The overwhelming show of strength by the opposition led to the KMT government softening its usual coercive rule of security forces and threat, and although it was technically illegal, the DPP went on to win 12 legislative and 11 National Assembly seats during its first election campaign in December 1986. Eventually, martial law was lifted in 1987, and in January 1989, the Law on the Organization of Civil groups was passed, allowing the legal formation of opposition political parties for the first time.

The reason why the history of democratization is so important in understanding the birth of environmental movements is because these two processes are often viewed as going hand in hand, as seen in the examples of many Eastern European nations in the

late 1980s (McCully, 2001; Vari & Tamas, 2010). In Taiwan, protests grew steadily as the KMT government softened its authoritarianism, with protest cases increasing from 4 in 1980 to 30 in 1986 (M. Ho, 2011). From 1987 to 1989, the average annual protest cases jumped to 29, 67 and 122 for each respective year, reaching an all-time peak of 251 cases in 1991 (M. Ho, 2011). This clearly showed that Taiwanese citizens were using their newly attained political freedom to engage in environmental protests, with the failure of government's attempted crackdown only fuelling the flames of protests.

The first notable environmental protest occurred between the years 1982-1986 against the chemical plant of Sunko Ink Co. in Taichung County after repeated petitions to higher authorities regarding the company's poisonous gas emissions saw minimal concrete responses. This protest was significant, as this led to the birth of the first grassroots-based environmental organization in 1984 – the Taichung County Prevention Society. This later provided inspiration for a similar protest in Lukang against government-approved investment planning by the American corporation DuPont in 1986, led by a nonpartisan candidate for town mayor. This sparked a mass demonstration in Lukang in June of the same year – an unprecedented event – although police intervention prevented them from completing the planned route. In 1986, a Changhwa County Pollution Prevention Society was set up in Lukang, similar to the society in Taichung, with the aim of mobilizing local opposition. Ho (2011) saw this as the start of the environmental movement in Taiwan, as it fulfilled the two main characteristics of social movements as defined by Charles Tilly – namely that of special-

purpose association (as in the case the Sunko protest) and special-purpose public meeting (as in the case of Lukang) (Tilly, 2004).

In August 1987, the cabinet-level Environmental Protection Administration (EPA) was established while many regulatory laws concerning waste, wildlife, and pollution were enacted or revised (Yeh, 1993). For environmental activists, the establishment of the EPA was viewed as an implicit acknowledgement of the movement's validity and an attempt by the government to readdress the grievances. However, environmental groups soon found that the EPA had no intentions for cooperation or consultation, with the inside documents from the EPA revealing that environmental bias in the general populace were "too emotional to be rationally negotiated with," while the EPA Director claimed that while "environmental consciousness was widespread, environmental knowledge was limited to a few" (M. Ho, 2011, p. 293). There was thus little meaningful participation for the environmental groups in the EPA.

This disjoint between state-endorsed environmentalism and a continued disapproval of the environmental movement was evidently seen in the appointment of Premier Hau Pei-tsun in May 1990. This was in response to growing alarm within Taiwan's corporations that environmental protests were not only non-economic in nature, they were also damping investment incentives in the island. Hau, a four-star army general, took a tough stance against environmental activism taking on the forms of protests, viewing them as results of a weakened governing apparatus. Not only did he brand environmental activists as "bullies," Hau was also not hesitant in utilizing the police force to break up citizen protests (M. Ho, 2011). For example, a citizen blockade

against a China Petroleum Company refinery in Talinpu, Kaohsiung City, was ended after Hau denounced the protestors and sent police to break up the blockade, beat up the locals, and prosecute 39 participants.

Faced with still-hostile KMT government, the environmental movement soon found themselves aligning with the opposition DPP. The DPP was founded on a party charter that included anti-nuclear clause and a pro-environmental platform while many of those in the party were also passionate about environmental causes. More importantly, the DPP provided resources crucial for environmentalists to gain political power, including office space, campaign vehicles, and organizing experience. New Tide, a more radical faction of the DPP, was also instrumental in setting up the Taiwan Environmental Protection Union (TEPU) in 1987, an environmental organization that continues to play an important role in the environmental movement today. DPP also had much to gain from the alignment with the environmental movement, for the appeal of DPP's environmentally-friendly image and the aversion towards KMT's repressive policies drew support from the increasingly environmentally-aware population, weakening the KMT's voter base. This was also seen as a major contributing factor for DPP obtaining more than one-third of the seats in the Legislative Assembly in the 1992 election, which was seen as a huge failure for the KMT and spelt the end of Hau's premiership.

1.4 Incorporation into Policy Channels

With the DPP becoming a growing force in the government, there was a greater inclusion of environmental activists and groups into the decision-making process. Environmentalists were officially invited to join governmental advisory committees, with the 1996-1998 twenty-five members wildlife conservation advisory committee consisting of twelve members recommended by environmental NGOs. With the political inclusion of environmentalists, many environmentally-controversial projects were suspended, including the Hsiangshan industrial zone, the Pinnan industrial zone, and the Meinung dam (M. Ho, 2011). However, environmentalists were still largely excluded from the main decision-making process, and the power government-backed corporations were able to disregard these advisory committees without any serious consequences. More importantly, the EPA review process still excluded the environmental movement, and requests by environmental groups to recommend environmental impact assessment reviewers were turned down by the EPA Director. Nevertheless, a key component of the EIA is the public hearing, which allowed members of the public to testify and whistle blow on controversial projects. Environmental activists thus utilized this channel to exert pressure on the EPA. Even today, the EPA continues to be seen as a pro-government body that lacks the ability to regulate environmental pollution effectively, making the public hearing an essential (and perhaps only) avenue where environmental activists can make their voices hear in the otherwise opaque EIA process.

By the mid-1990s, protests were becoming so routinized that the policing of protests were delegated to the lower level of the police system rather than by the central government (M. Ho, 2011). However, this time also marked a key event in the environmental movement of Taiwan – the fallout with the DPP.

As the DPP gained more seats in the Legislative Assembly, the DPP set their sights on gaining control of the government. This inevitably involved moving beyond its social movement voter base and appealing to a broader constituency – an aim threatened by the persistent impression that the DPP, in its bid for social causes, was fundamentally anti-business. Slowly, the DPP began to keep mum over new environmental controversies while renegading on its anti-nuclear promises in its charter. One of the major events in 1996 that led to the breaking down of the relationship between the DPP and the environmental movement occurred when a motion to terminate all nuclear power plant construction co-sponsored by the DPP and another opposition party, the New Party, successfully passed three readings due division among the KMT legislators. In October, the KMT government utilized the constitutional tool requiring only one-third of the legislators to pass “re-consideration” in an attempt to overturn the anti-nuclear proposal (M. Ho, 2011). Anti-nuclear activists, believing that this was the last barrier for the motion to pass, asked for the DPP to oppose the re-consideration of the anti-nuclear bill from being placed on the agenda. However, while the DPP publicly expressed their opposition to the reconsideration bill, they had in fact reached a secret agreement with the KMT, whereby the DPP had traded nuclear plant support for political concessions (Katsiaficas, 2013). When news of the betrayal reached

the anti-nuclear activists waiting outside the Legislative Assembly, emotions reached a boiling point, and a violent clash ensued between activists and DPP legislators. This event placed the nail in the coffin for the relationship between the DPP and the environmental movement.

1.5 Entrance into Government

Realizing the need for alliances with businesses and corporations, the DPP began to cultivate friendly relationships with businesses. However, the environmental movement still sought ways to gain concessions in the less hostile DPP government, although they have learnt not to pin all their hopes on the DPP. In March 2001, the DPP won the presidency with the election of Chen Shui-bian, although a majority coalition formed by the KMT, People's First Party, and New Party prevented the DPP from taking control of the Legislative Assembly. In June 2001, the EPA under the DPP made an important change in the rules for selecting EIA reviewers by allowing professional associations, academic institutions, and civil groups to submit their recommendation (M. Ho, 2005b). Also in February 2001, the DPP government invited many anti-nuclear activists into the Nuclear-Free Homeland Communication Committee, while in March 2001, an anti-nuclear activist economist was appointed to the directors of the board of Taipower, the state-owned electric power utility that provides electric power to Taiwan and the owner of the nuclear power plants on the island. This was definitely a big step from the previous KMT government, and environmental activists were able to get a first-hand look at the inner mechanisms of government. Many junior activists found

opportunities to work as assistants, helping to bridge understanding between officials and movement organizations while bringing their expertise born from years of monitoring relevant policy areas into the government (M. Ho, 2005a). However, the KMT, outraged that the DPP had brought so many younger activists into government, called out the DPP for turning Taiwan into "a country ruled by a bunch of boy scouts" (M. Ho, 2005a). Nevertheless, environmental activists in the government were soon faced with the reality that their impacts on policies were still highly limited.

First of all, environmental activists were only able to access the offices concerning environmental administration, specifically those related to the EPA, which itself was only a junior power within the cabinet and powerless in the face of the pro-development Ministry of Economic Affairs (MEA) (Ching-ping Tang & Tang, 2000). Other governmental agencies were also resistant towards pro-environmental moves, sometimes even undermining the efforts of pro-environmental committees by leaking unfavorable news to the media (M. Ho, 2005b). Moreover, as the environmentalists' access to these committees were contingent on their relationship with the DPP, they could not oppose the party's actions and had to accept some of the pro-development actions of the DPP, albeit begrudgingly.

The DPP also had its hands tied with regards to environmental issues. As the party never won a legislative majority, many DPP pro-environment measures were defeated in the Legislative Assembly as environmental issues become politicized (Fell, 2012). As the DPP was also reliant on business donations and needed to shed its anti-business image, green issues were forced to take a backseat while pressure from the US

prevented the DPP from realizing its goal of a "nuclear-free homeland," as major contracts for US firms were at risk if the Fourth Nuclear Power Station was abandoned (Arrigo & Puleston, 2006).

As a result, the participation of environmental activists in the government did little in stopping the DPP government's move towards social conservatism and a growing emphasis on economy and development. The conflict between the environmental movement and the government was thus moved from the streets to the decision-making institutions of the DPP government, including a walk-out by the environmentalists who sat on the EIA committee (M. Ho, 2010). Although Chen Shui-bian won a second term as president, it was marked by various financial scandals related to his personal aides and family members. At the same time, the KMT also exploited the conservative direction the DPP was taking to curry favor among the environmental movements, with KMT political elites even launching their own protests (M. Ho, 2005a). The relatively recent democratization of Taiwan's political scene meant that the different political parties had less rigid ideological divides, leading to these opportunistic behaviors that sought to chip at the opponent's supporter base. The KMT coalition even went back against their previous strongly pro-nuclear stance by calling for the resignation of the minister of economic affairs following protests staged by the indigenous inhabitants of Orchid Island after the DPP government failed to remove the temporary storage of nuclear waste as promised (M. Ho, 2005a). As the DPP government experienced sharply decreasing approval rates, efforts were made in the final two years of the party's term to win back support from the various social

movements, including rejecting the Suao-Hualian Highway project that had drawn the criticisms of various environmentalists. Nevertheless, it was a case of too little too late, as the KMT once again regained control of the government in the March 2008 presidential elections by a much larger-than-expected margin while already possessing almost three-quarters of the seats in the Legislative Assembly (Fell, 2010).

1.6 Return to KMT rule

Many questioned whether the environmental movement, or social movements in general, were able to be "restarted", as many social movement organizations had lost their capacity to mobilize their mass constituencies after years of working within the government (H. Hsiao & Ku, 2010). However, student movements were revitalized in November 2008, while intensive canvassing by environmentalist activists in September 2009 resulted in them winning the referendum to stop the construction of a casino in Penghu County – a project actively promoted by local KMT politicians and endorsed by then-president Ma Ying-jeou (M. Ho, 2010). The farmers' movement also reappeared to protest against compulsory land acquisition to develop industrial zones, which will be elaborated in Chapter 2. Once again seeing an opportunity to bank on the growing social activism, the DPP re-established its Department of Social Movements in February 2009, although the involvement of DPP politicians remained minimal, nor were they particularly welcomed at protest occasions (M. Ho, 2010).

These examples showed that the environmental movement was able to garner support even without the resources of the DPP. Many activists have given up hope on

utilizing governing mechanisms to enact change, choosing instead to explore creative avenues where policies could be challenged, including lawsuits (as in the case of the Central Science Park) and public protection of ecologically precious areas (as in the case of the Kuokuang Petrochemical Project, which was planned to be built on tidal estuaries that were home to the endangered Taiwan white dolphins). The many environmentally damaging policies put up by the KMT shortly after it came into power also instigated alarmed environmental groups, including Citizen of the Earth and the Society of Wilderness, to organize and actively resist various policies and projects (M. Ho, 2010). Ming-sho Ho (2010) also explained that this was the result of the Ma government's conservative policy agenda that were at odds with the environmental movements, paired with the government's adherence to democratic values of not suppressing such movements.

This brief outline of the environmental movement's history in the past 30 years has allowed us to understand the state of the environmental movement in Taiwan today. It is important to note that the movement, much like democracy in Taiwan, has only came into existence in a relatively short time. Within this short time, the movement has evolved from one that chiefly involved mass demonstrations to one that also incorporated negotiations, lobbying, advocacy, and lawsuits. An increased access to policy making and government during the DPP era has allowed environmental activists to gain a clearer understanding of the governing mechanisms while realizing the limitations of leveraging on the government to enact changes. As a result, distrust of the government in the environmental movement is still highly prevalent today, as

experience has proven that the government in power consistently took on a more pro-business outlook while overlooking the demands of the environmental movement. That said, having lost access to government policy-makers that they enjoyed under the DPP government, the environmental activists continue to seek strategic alliances with the DPP, which has become more receptive following its post-2008 electoral defeat. In the following chapter, three different environmental cases illustrate the dynamics between the environmental movement and the government.

Chapter 2: Three Environmental Case Studies

2.1 Anti-Nuclear Protests

The anti-nuclear movement is a huge component of the wider environmental movement in Taiwan, and many activists that participated in the anti-nuclear movement were also highly involved in other aspects of environmentalism. Similarly, almost all environmental groups in Taiwan are either against nuclear power in Taiwan, or wanted the construction of the Fourth Nuclear Power Plant to come to a halt (Jennings, 2011b).

The anti-nuclear movement has a history that stretches back to the late 70s, when academics became the first opponents of nuclear plants being situated in Taiwan, especially after the Three Mile Island Incident in 1979. One of the founders of the movement, Edgar Lin, professor of biology at Tunghai University, published an article in *China Magazine* severely criticizing Taipower for the lack of concern for ecology, safety, and nuclear waste disposal, which soon drew an equally sharp-worded reply from an engineer at Taipower (M. S. Ho, 2003). This marked the start of various nuclear debates in Taiwan, resulting in 197 articles with anti-nuclear themes published in Taiwanese magazines between 1979 and 1986 (T. Hung & Huang, 1987). However, as many of these articles were written by academics in scientific language steeped in technical and academic jargon, they failed to inspire mobilization among the masses. Moreover, the political climate of that time still did not allow overtly strong political undertones to be incorporated in their writing, meaning that most of the writing remained as purely professional discussion (M. S. Ho, 2003).

However, another important group to figure in the anti-nuclear movement at that time was the *tangwai* movement, literally "nonpartisan movement", that was the predecessor to the DPP. The *tangwai* movement sought to build a formidable opposition force by gathering a coalition of social discontents, such that a comprehensive range of social issues was represented. The anti-nuclear message thus became a key component of the movement, as political corruption in the construction process of the nuclear power plants served to undermine the legitimacy of the KMT while the highlighting of the extreme risk of nuclear power plants in Taiwan drew widespread distrust to the KMT's pro-nuclear propaganda (Rigger, 2001). As a result, the *tangwai* managed to provide a new message to voters on the nuclear issue that was drastically different from the message that KMT had presented to them. That said, it is also important to point out that anti-nuclear views in the 1980s were in no way strictly partisan – there are records of KMT legislators publicly voicing their opposition to the construction of a fourth nuclear power plant as several minor nuclear accidents had previously occurred in older nuclear power plants due to the oversight of Taipower, and the severe overspending that had plagued the third nuclear power plant (M. S. Ho, 2003).

Following several large-scale public debates to evaluate the feasibility of a new nuclear power plant, including a television-broadcast debate, there was widespread agreement that the Taipower engineers were not able to address the criticisms lobbied at them. In April 1985, 55 KMT legislators and 6 *tangwai* legislators separately signed appeals to suspend the construction of the new nuclear power plant, leading to Premier

Yu Kuo-hua ultimately shelving the entire issue by indefinitely pushing back the construction of the fourth nuclear power plant (Ministry of Economy, 2000).

However, the anti-nuclear movement continued unabated. With the formation of the DPP in 1986, anti-nuclear movements became a key founding principle of the party. The receding authoritarianism also led to increasing protests, among both victimized grassroots movements and *tangwai*-affiliated academics, including one outside the Taipower headquarters in Taipei (M. S. Ho, 2003). It is interesting to note that the two kinds of protests might have built upon each other – the academics' participation cleared the doubts of local grassroots movement and encouraged them to take action, while the grassroots movement proved to the academics that their actions were representative of the "masses."

By now, the DPP has been convinced that their pro-environment, anti-nuclear stance not only generated anti-KMT sentiments but also drew large numbers of supporters. Thus, when the DPP was created in 1986, the party charter explicitly stated that they oppose the building of any new power plants and that more stringent surveillance is needed over the existing ones (Rigger, 2001).With the formation of a Department of Social Movements, this also marked the start of the close cooperation between environmental NGOs and the DPP, most notably the Taiwan Environmental Protection Union (TEPU), which consisted of anti-nuclear scholars. Many TEPU members were involved in the DPP, with the DPP politicians' offices and the local TEPU branches even sharing office spaces in some places (M. S. Ho, 2003). TEPU relied on the DPP for

participant mobilization and recruitment, deepening DPP's participation in the anti-nuclear movement.

However, with the merging of the anti-nuclear movement with the DPP, it created the counter-effect of silencing any anti-nuclear voices within the KMT, as objection against nuclear power began to be conflated with support for the DPP. The anti-nuclear movement was now a partisan issue. When the ex-military strongman Hau Pei-tsun of the KMT assumed premiership in May 1990, he even declared, "The fourth nuclear power plant is one of the indicators of how I shall re-establish the public authority and improve the investment environment" (L. Wang, 1994). Three months after his installation, Hau also asked the police to list what he referred to as the "social movement ruffians" and to take necessary legal actions, thereby also eliminating any dissent among KMT politicians (M. S. Ho, 2003). A key incident happened in September 1991 when the government announced that the fourth nuclear power plant had completed its EIA, which caused the local grassroots anti-nuclear movement to launch a protest where they built a barricade around the construction site of the power plant. Although the police had initially promised not to dismantle the barricade, they eventually went back on their words and broke down the barricade on 13 October, resulting in a violent clash with local fishermen that left one dead and several injured. A total of 17 protestors were found guilty, with one of them sentenced to life imprisonment. This no doubt worsened the animosity between environmental activists and the KMT government while increasing the DPP's appeal to environmentalists.

In 1994, four referendums regarding nuclear power were held to gauge the public's perception toward the issue, although the KMT government never did acknowledge the legal status of the referendums (M. S. Ho, 2003). As the environmental activists had predicted, all four referendums reflected an anti-nuclear majority in the population. At the same time, the DPP was scoring major electoral victories in the Legislative Assembly, scoring almost 31 percent of the votes and becoming a formidable challenger to the KMT (Rigger, 2001). This invigorated the TEPU to launch parliamentary offensives to forward its anti-nuclear cause, including staging sit-ins, hunger strikes, and protests outside the parliamentary building during the Legislative Assembly's budgetary debate sessions for four consecutive years beginning in 1992. Nevertheless, while TEPU managed to secure the votes of virtually all DPP legislators, the KMT legislators either voted with the government's wishes or casted invalid votes (M. S. Ho, 2003). This made clear the difficulties in getting non-DPP politicians to support the anti-nuclear cause, and it slowly dawned on environmental activists that such a clear alignment with the DPP might both be an asset and a liability.

The relationship between the anti-nuclear movement and the DPP reached a turning point in 1996, as outlined in Chapter 1, when the DPP and the New Party's (a breakaway faction of the KMT) bill calling for the termination of all nuclear plants under construction managed to pass through three readings amidst a KMT suffering from severe disunion (Lin, 1998). However, constitutional procedures meant that the KMT-controlled Executive Assembly could annul the bill as long as it could acquire one-third of the Legislative Assembly's approval. The anti-nuclear movement called for the DPP to

use all means to stop this re-consideration, and the DPP appeared to do so, issuing an order of mobilization and having its Chairperson join a sit-in protest outside the Legislative Assembly on 18 October 1996 (M. S. Ho, 2003). However, on the same day, anti-nuclear protestors found evidence that the DPP parliamentary leadership had no longer saw the use of continued resistance as worthwhile and had tacitly traded the bill for other concessions from the KMT. This resulted in much fury among the anti-nuclear protestors, with some protestors attacking DPP Legislators, and spelt the end of the relationship between the anti-nuclear movement and the DPP. Later, DPP politicians also denounced the anti-nuclear protestors as "rabbles," while DPP legislators stopped sponsoring any anti-nuclear proposals (M. S. Ho, 2003). The DPP thus became severed from the social movements that had contributed to its rise to power.

In 1996, another key event occurred with regards to the anti-nuclear movement: the formation of the Taiwanese Green Party (TGP), an attempt to reclaim the anti-nuclear movement following its previous reliance on the DPP. The TGP saw the DPP as straying too far from the social movement sector and vowed to replace the DPP as the political representatives for social movements in Taiwan (R. Winkler, interview, June 16, 2014). Its first Chairperson, Kao Cheng-yen, was an anti-nuclear veteran and a former President of TEPU, and the party drew many anti-nuclear activists after the betrayal by the DPP. The TGP recruited 13 candidates to take part in the election of the National Assembly in March 1996, and although it was initially seen as a promising challenger, it eventually only won an average 2.5 percent of voter shares in the districts it participated in (M. S. Ho, 2003). There were various reasons for the poor showing of the TGP. These

included many anti-nuclear veterans choosing to stick with the DPP, simply because the DPP had a more reasonable chance of getting parliamentary representations. Local areas that had been highly anti-nuclear continued their allegiance with the DPP due to the years of political work done by the DPP in these areas.

By the time the DPP took control of the government in 2000, nuclear skepticism has already spread from local residents and academics to the urban middle class in Taiwan. Although the DPP presidential candidate Chen Shui-bian ran on a promise to "promote the research and development of renewable and new energy technology to stop using nuclear energy," he never fully implemented such policies after taking office (Chen Shui-bian Presidential Campaign Coordinating Center, 2004). Four months after their electoral victory, the DPP Premier, Chang Chun-Hsiung, announced his intention to abolish the construction of the fourth nuclear plant without even putting the issue to a vote in the Legislative Assembly, as the DPP occupied less than one-third of the seats in parliament. This drew an all-out offensive from the opposition KMT, New Party, and the newly-formed People First Party (M. S. Ho, 2003). They pointed out that "scrapping the project would cost NT dollars 100 billion, including compensation for breaking contracts already awarded to local and foreign builders," which would lead to an increase in tax and electricity costs (Central News Agency, 2000). Nevertheless, the Council of Grand Justices blocked this move on 15 January 2001 on constitutional grounds, and on 31 January 2001, the plant project was put to a vote in the Legislative Assembly, with a majority calling for continued construction (Alagappa, 2001). In a startling about-turn on its previous policies, Premier Chang announced that the construction of the Fourth

Nuclear Power Plant would be restarted. Once again, the DPP government had cast the anti-nuclear movement aside. This naturally came as a shock for the locals in Gongliao, the site of the fourth nuclear power plant, who were previously the most ardent supporters of the DPP (F.-L. Shih, 2012). By blocking the DPP's poorly conceived plans of terminating construction of the Fourth Nuclear Power Plant, the KMT had effectively shaken the loyalty of the DPP's supporters. It did not help that the KMT and the DPP soon blamed the local anti-nuclear grassroots movement in Gongliao for potentially wasting millions of taxpayer's money and causing the economic downturn in Taiwan through their opposition of the Fourth Nuclear Power Plant (F.-L. Shih, 2012).

Another key point of conflict in the nuclear power issue is also the method in which nuclear waste was disposed. When the nuclear power plants first started operations in the 1970s, there were talks to dump nuclear wastes into ocean trenches near Orchid Island, an isolated island about 50 miles from the main Taiwan island. However, the London Dumping Convention, which prohibited the dumping of nuclear wastes in the ocean, soon put a halt to these plans (Fan, 2006b). The government then decided to store the nuclear waste on a site situated on Orchid Island itself, home to about 4,000 people, of which about 3,000 belong to the Tao tribe, an indigenous Taiwanese tribe that had managed until then to keep their lifestyle and culture relatively intact. When construction for the nuclear waste storage facility began in 1982, no approval was sought from any residents on the island, nor were they informed about it (Sinan Mavivo, interview, July 13, 2014). In fact, the local government told the locals, many whom were illiterate, that the nuclear waste facility was going to be a fish-canning

factory. This started the deep mistrust between the Tao people and the government, with the Tao's exclusion from the decision-making processes perceived by the locals as a form of bullying by the government (Fan, 2006b). The little trust left in the government was further eroded when several thousands of the nuclear waste containers in Orchid Island were found to be rusting in the late 1980s. It was only after environmental groups made the incident public did the Atomic Energy Council and Taipower replace the rusting containers with new ones.

That said, the issue of nuclear waste disposal is a divisive issue even among the locals. Taipower had offered compensation to the residents of Orchid Island by improving its infrastructure and social welfare services, and each resident received NT$60,000 (around US$2,000) every three years. This had the effect of placating a portion of the local residents while creating a rift between those who supported the nuclear waste disposal siting and those who opposed it. After more than 30 years of investments by Taipower, many on the island also question the ability for the locals to cope financially if the compensation were to stop with the withdrawal of the nuclear waste storage facility on the island. Fan (2006b) pointed out that the younger Tao population is more resistant to monetary remuneration or to putting a price on invaluable environmental goods, while Tao fishermen, housewives and professional groups tended to regard the nuclear waste storage facility as an imposed and coercive risk and considered their acceptance of the compensation as something involuntary.

The local Tao's anti-nuclear waste movement began in 1987, led by the local Christian church and environmental groups. Although the self-contained nature of the

Tao community meant that it was hard for them to draw attention to their cause from the wider Taiwanese population, their cooperation with anti-nuclear movements provided them with the resources and ability to mobilize support. They eventually managed to get the government to halt further shipments of nuclear waste in 1996 and promised to remove the facilities in the area by 2002, although this promise has yet to be met more than ten years later. Even now, neither the Taiwanese government nor Taipower has agreed to conduct a comprehensive health survey of the Orchid Island inhabitants to monitor the health effects brought about by the nuclear waste storage facility even though medical records have shown that cancer patients have been increasing steadily on the island since the facility started operations three decades ago (Loa, 2012).

With an increasing amount of nuclear waste and a halt on further shipments to Orchid Island, the government began to conduct a voluntary scheme that offered money to communities across Taiwan that were willing to host radioactive wastes. Although some local governments agreed initially to host, all withdrew eventually upon protests from local communities (G. C.-L. Huang et al., 2013). In 1997 and 1998, the Taiwanese government signed agreements with North Korea, the Marshall Islands, and Russia to ship nuclear wastes to these countries but stopped after drawing strong opposition from Japan and South Korea due to safety and environmental concerns (Asian Economic News, 2002). In 2002, half of the island's population protested in front of the nuclear waste storage facility, demanding complete removal of the waste materials. With the government still unable to find an alternative nuclear waste storage

site, Taipower agreed to pay an additional one-time donation of NT$200 million (about US$5.7 million) to the island residents, subsidize all residential-use electricity, and remove all nuclear waste by 2016 (Di Genova, 2010). However, with the government yet to find an alternative site for nuclear waste storage and its history of rescinding of previous agreements, hopes are not high for the nuclear waste storage site to be removed by the deadline.

The Fukushima nuclear accidents in March 2011 brought the risks of nuclear energy in Taiwan back under the spotlight, revitalizing the anti-nuclear movement in the country. Shortly after the accident, over 2,000 anti-nuclear protestors called for all work on the nearly complete Fourth Nuclear Power Plant to be stopped immediately while also opposing the extension of the lifespan of the three existing nuclear power plants by Taipower after their licenses expire (Agence France-Presse, 2011). Another large-scale protest was held on 4 June 2011 on the eve of World Environment Day, led by TEPU and 13 other environmental groups, where protestors called for all nuclear power plants to be thoroughly re-evaluated and shut down if they fail to pass safety inspections (I.-C. Lee, 2011). Furthermore, a report released in November 2011 revealed that a radioactive leak had been detected outside the nuclear waste storage facility on Orchid Island, which led to a protest by 500 local Tao residents outside the facility calling for the nuclear waste to be removed as soon as possible (Loa, 2012). In response, Lee Ching-shan, director of Taipower's nuclear back-end management department, said the company was "sincere about its promises," but due to various delays, "may not be able to make [the target] by 2016" (Loa, 2012).

The anti-nuclear protests occurred again in 2012 on the first anniversary of the Fukushima disaster, although the protests gained even more momentum in 2013. Protests on the second anniversary of the Fukushima disaster drew over 68,000 people, while another demonstration on 19 May 2013 drew 10,000 people (Sun, 2013; Xinhua, 2013). The month of August saw three separate anti-nuclear protests on the 2nd, 16th, and 24th of the month, each organized by different environmental organizations and spurred by Taipower's announcement to increase the price of electricity (Focus Taiwan, 2013; Taipei Times, 2014). The protest on 24 August was notable in that it was organized by Moms Love Taiwan, an anti-nuclear group that was formed by concerned mothers asking for the government to come up with alternative policies on energy, promote education on environmental and energy matters, and publish the timetable for a nuclear power-free Taiwan (J. Lee, 2013). The anti-nuclear movement had moved beyond the environmental groups to other components of the civil society, including the women movement. Several polls also showed that about 70 percent of Taiwanese opposed the building of the Fourth Nuclear Power Plant (Agence France-Presse, 2014). In early 2013, the KMT decided to hold a legal referendum to decide the fate of the plant, but the referendum immediately drew criticisms from anti-nuclear activists and the DPP for the way the questions were phrased. The referendum took advantage of Taiwanese laws that state a referendum can only be declared "valid" when the turnout of voters is higher than 50 per cent, and at least 50 per cent of those who vote must vote "yes" for the referendum to have legal validity (Grano, 2014). As a result, citizens who did not vote will have been assumed to support the construction of the plant. The

referendum was thus shelved due to overwhelming opposition.

Numbers at anti-nuclear protests increased steadily, and on the third anniversary of the Fukushima nuclear disaster, more than 130,000 Taiwanese marched in anti-nuclear protests all around Taiwan, demanding that the government remove all nuclear power plants (Jennings, 2014a). Various civil organizations participated in the protests, including the Green Citizen Action's Alliance, Homemakers United Foundation, Taiwan Association for Human Rights, and TEPU, with attendance from members of both the DPP and KMT (Focus Taiwan, 2014a). On 22 April 2014, Lin Yi-hsiung, the widely respected ex-chairman of the DPP and one of the earliest anti-nuclear advocates, began an eight-day hunger strike at Taipei's Gikong Presbyterian Church to demand that the government halt the construction of the Fourth Nuclear Power Plant and lower the national referendum threshold to a simple majority, effectively drawing an emotional response form the public (C. Wang, 2014). This was held weeks after the Sunflower student movement, when a coalition of university students and civic associations occupied the Legislative and Executive Assembly for three weeks to oppose the government's opacity in negotiations for the Cross-Strait Service Trade Agreement, thus adding pressure on a government that was already plagued with economic issues. After visits from the political elites of both the DPP and KMT and the President himself, Lin ended the strike eight days later when the cabinet pledged to halt construction of the nuclear plant (Focus Taiwan, 2014b). During Lin's hunger strike, thousands of anti-nuclear activists occupied Zhongxiao West Street, a major thoroughfare through Taipei, including many families with young children. After repeated calls to leave did not

disperse the protestors, Taipei Mayor Hua Lung-bin gave the order at 2:30 a.m. on 28 April 2014 for riot police to use water cannons to disperse the protestors in time for business hours on Monday morning (Cole, 2014).

Finally, facing mounting public pressure, President Ma Ying-jeou announced on 27 April 2014 that reactor number one at the Fourth Nuclear Power Plant would be sealed up and construction on reactor number two would be temporarily suspended (F. Hung, 2014). However, many environmental activists did not view this as a victory, as KMT's decision to delay the construction of the Fourth Nuclear Power Plant was mostly due to pre-electoral concerns ahead of the November municipal elections. The KMT intends to put it to a popular referendum in the future, but it does not intend to lower the referendum threshold regarding the percentage of voters to a simple majority or set a precise date for the referendum (H. Shih, 2014). Many doubt the government will scrap the construction completely as that would lead to the bankruptcy of Taipower (I. Lee, 2014).

The fact that the number of anti-nuclear protestors has increased annually, with a greater involvement of social organizations that represent different interests, points to an effective public education and outreach program run by the environmental NGOs. A recent one-person-one-vote online referendum organized by Moms Love Taiwan saw 81% of respondents opposing nuclear power.[2] The anti-nuclear movement has managed to strategically magnify the biggest criticisms of nuclear energy in Taiwan and relay it to

[2] The online referendum can be found at http://nuclear-vote.com.tw. It must be noted that the NGO is an anti-nuclear NGO, and its respondents will most probably be of a certain political and environmental persuasion. Its online nature also restricts its reach in terms of age, education level and access to technology.

the general population, mainly focusing on the “what if” situation of a Fukushima-scale disaster happening in Taiwan. The first of these criticisms is that nuclear power plants should not belong on a small, seismically active island like Taiwan. Drawing from the example of Chernobyl, which resulted in a contamination area of more than 160,000 square kilometers (around 61,700 square miles), a nuclear incident on that scale would undoubtedly devastate the entire island of Taiwan, which has an area of 36,000 square kilometers (around 14,000 square miles). The siting of the first, second, and fourth nuclear power plants in the northeast, coupled with the strong north-easterlies that blow into Taiwan every April to September, would cause much of the densely populated northern Taiwan to be enveloped under the radioactive cloud in the event of a nuclear accident.

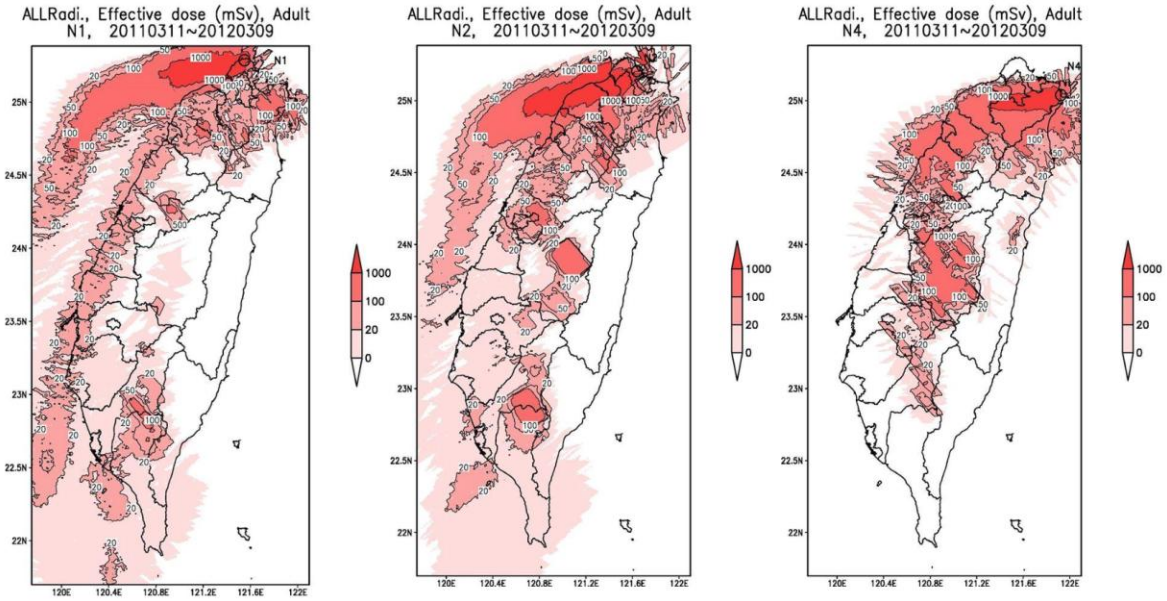

Fig 2: Map showing radiation dosage if a Fukushima-scale nuclear accident were to occur at the (from left) First Nuclear Power Plant, Second Nuclear Power Plant, and Fourth Nuclear Power Plant (Source: Prof Ben-Jei Tsuang, National Chung-Hsing University)

During the 2011 Fukushima nuclear accident, residents living within an eight km (around 5 miles) radius were asked to evacuate, while those living with a 30 km (around 18.6 miles) radius were encouraged to voluntarily evacuate (Atomic Energy Council, 2014). As for Taiwan, more than 3.8 million people live within the 30 km radius of the First Nuclear Power Plant, and more than 5.4 million people live within the 30 km radius of the Second Nuclear Power Plant, making evacuation and relocation of people difficult in the event of a nuclear disaster in either of these power plants.

The frequent occurrence of natural disasters also increases the risk of a nuclear accident happening on the island. Taiwan experiences about 15,000 to 18,000 earthquakes annually, and its nuclear plants are situated over various fault lines, including the Third Nuclear Power Plant's position over the Hengchun faultline (European Nuclear Safety Regulators Group, 2013). Tsunamis have also occurred at the location of the First and Second Nuclear Power Plant, most notably in 1867, and the surrounding seas have more than 60 underwater volcanoes, with Guishan Island in particular being an active volcano that has risen above the surface of the ocean (Central Geological Survey, MOEA, 1995). Previous natural disasters have revealed that nuclear power plants in Taiwan are ill-prepared to deal with disasters of a larger scale. For example, strong winds from Typhoon Suri in 2013 caused the main transformer in the Second Nuclear Plant to malfunction. During the repair process, plant workers committed multiple errors that forced the emergency closure of the plant – the third emergency closure of a Taiwanese nuclear plant in the span of 21 days. Nuclear experts

warned that the repeated emergency closure of nuclear reactors will not only shorten their lifespans but also increase the risk of radiation leaks (Y. Wang, 2013).

As a result, closing down the older nuclear power plants is also a priority for many anti-nuclear activists. All three nuclear power plants in operation currently show signs of wear and tear, including signs of bending in the fuel cartridges of the First and Second Nuclear Power Plant, the infiltration of rainwater into the condensate pumps, 30 percent of bolts showing signs of deformation, cracks appearing on the sides of the nuclear reactor core in the Second Nuclear Plant in 2012, and an electrical fire breaking out at the Third Nuclear Plant in 2009 (Atomic Energy Council, 2009, 2011, 2012a, 2012b; J. Tang, 2012). There have also been reports that with the retirement of the older generation of nuclear plant workers, the entrance of relatively inexperienced workers has led to the increase in incidents and emergency closures at nuclear power plants (Li, 2013).

Currently, nuclear power takes up 10.5 percent of the total installed electrical capacity of Taiwan, although the actual electrical generation capacity is higher at about 18 percent (Bureau of Energy, 2014). With Taiwan's reserve electrical capacity at 15.4 percent and the growing outsourcing of energy-intensive industries offshore, environmentalists have argued that there is no actual need for Taiwan to construct the Fourth Nuclear Power Plant (Xu, 2014). The anti-nuclear movement's solution to bridge the gap in electricity generation when the nuclear power plants are shut down is to promote energy saving among the population and not to look at other alternative sources of energy generation. While acknowledging that energy consumption will

continue to increase in Taiwan, many believe that there is a possibility to decrease current energy consumption, although detailed strategies and action plans are severely lacking.

While environmental movements in other countries are often split with regards to their position on nuclear power, Taiwanese environmental organizations have shown surprising unity in their stance on the issue. While there are cases of corporation-funded organizations masquerading as "environmental NGOs," virtually all widely recognized environmental groups, including those centered around climate change, have openly expressed their opposition to nuclear power (Jhang, 2014). NGOs that have participated in the anti-nuclear movement include human rights organizations, educational organizations, labor movements, and gender equality advocacy groups. Such an overwhelming support for the anti-nuclear movement from different social movements reveals the belief that a nuclear incident will spell doom for the entire island, as seen from the emphasis on the word "homeland" in anti-nuclear protests. Moreover, the inability to cope with previous nuclear incidents have brought the crisis management skills of the government and Taipower under question, while continued corruption has eroded trust between the people and the government. A close relationship with Japan historically, geographically, and politically meant that public opposition towards nuclear power plants spiked after Fukushima, as the widespread media coverage and geographical proximity created a sense of empathy and solidarity with the victims of the nuclear disaster in Japan (Chen, 2011). Moreover, the resentment many environmental groups harbor towards the KMT government and the continually pro-nuclear position of

the KMT have also played into this dynamic, as opposition to the KMT also means opposition to nuclear power by default (S. W. Lu, interview, Dec 2, 2014). Finally, it is questionable how much impact a small country like Taiwan can make on global climate change, and the contribution of fossil fuel plants to climate change becomes a relatively less significant issue when compared to the possible damages of a nuclear incident happening (Y. Y. Tsai, interview, Dec 1, 2014).

The anti-nuclear movement has shown how environmental activists have pit themselves against the government, more notably the pro-nuclear KMT. Nevertheless, with their hopes of a DPP government taking on a more anti-nuclear stance subsequently dashed, the anti-nuclear movement is now seen not so much as a partisan issue but simply one that is standing opposed to the government. Nuclear energy is a low-polluting energy source as compared to fossil fuels such as coal, and thus for environmental activists to reconcile their traditional anti-pollution stance with their opposition to nuclear power reflects a view that the government's adoption of nuclear power has imposed negatives that have overridden the potential benefits of nuclear energy. These negatives could have been actualized, such as the dumping of nuclear waste on Orchid Island, or could be overwhelming fears, such as the high risk of a nuclear accident on the seismically active island and the degradation of the old nuclear power plants. In other words, anti-nuclear activists might not be only against nuclear power per se but are also against the government's inability to convince the people that they have sufficiently addressed these negativities. This thus makes the nuclear issue go beyond the environment and pollution sphere, but it also serves as a critique of the

incompetency and perceived corruption of the incumbent government. Moreover, the KMT's unwavering support for nuclear power and their condemnation of anti-nuclear activists as "anti-development" further antagonized the relationship between the two sides.

2.2 Central Taiwan Science Park Phase Three

In the 1980s, the Taiwanese government decided that there was much potential for the development of high-tech industries on the island, leading to the establishment of the Hsinchu Science Park (HSP), modeled after the Silicon Valley in the US. Wary about the negative environmental effects that were coming to light in the original Silicon Valley, the HSP was touted by the government as a cleaner substitute that will drive Taiwan's economy. However, the government soon found that environmental pollution was an inevitable aspect of the industry, and while the state continues to claim that the industry upholds environmental protection standards, many grassroots and environmental movements have risen to fight this claim (H.-M. Chiu, 2011). While this thesis will focus on the later Central Taiwan Science Park (CTSP), it is important to note some of the environmental pollution created by the HSP, as it served as a precedent to the environmental damage caused by the CTSP.

The first of major pollution case in the HSP that drew public attention was a serious fire in the HSP that resulted in several firefighters becoming hospitalized for chemical poisoning, causing concern for local residents. Thereafter, the *China Times* ran a series of exposés in 1997 pointing out that the HSP has illegally discharged wastewater

that had polluted thousands of hectares of farmland. However, the subsequent corporate backlash from the HSP, including withdrawal of all advertising with the *China Times* and strongly worded letters that accused the *China Times* of denying the "contribution of the companies in the HSP to national economy" and damaging the "goodwill and reputation of the member companies of the Association of Industries in HSP," resulted in the newspaper's chief editor, deputy director, and local branch editor visiting the HSP to apologize, successfully suppressing any more claims of illegal wastewater discharge (H.-M. Chiu, 2011).

More environmental incidents followed, including the Shengli Firm dumping unprocessed toxic solvents into the Chishan River in 2000, cutting off water supplies for more than 2 million people in the Kaohsiung metropolitan area, and the appearance of green oysters in the oyster farms off the coast of Hsinchu's coast in 2001 due to heavy metal contamination (Dai, 2001). To allay fears among the public, then-Premier Wu Den-yih ate raw oysters on national television. However, the government finally acknowledged the contamination of the oysters five years later in 2006 and used public funds to close down the oyster farms and compensate the farmers (L. Hsu, 2006). It was difficult for the environmental movement to successfully monitor these science parks, as the companies often insisted that they were complying with environmental regulations, albeit outdated ones that were not designed to regulate chemical pollution from electronics production (H. Chiu, 2014). Firms could also state trade secrets as a reason for not providing comprehensive information of the chemicals they were using, further complicating any effort to draw the link between industries and pollution.

The Central Taiwan Science Park was established in 1996 during the KMT government and was surprisingly supported by the DPP during their 2000 presidential election campaign. The DPP presidential candidate, Chen Shui-bian, incorporated the vision of a "Green Silicon Island" in his campaign, and when elected, fulfilled these promises by approving plans to further develop the CTSP, HSP, and the Southern Taiwan Science Park (STSP) (Council for Economic Planning and Development, 2001). However, while plans for Phase Three and Four of the CTSP were being drafted, Phase One and Two were encountering various environmental pollution problems, drawing strong resistance from the environmental movement. In 2006, wastewater from the CTSP Phase One and Two resulted in the salination of more than a thousand hectares of farmland, resulting in the loss of rice crops (J. Lu, 2006). Researchers also found out that arsenic used in the semiconductor and opto-electronic industries was polluting the atmosphere surrounding the science parks, with arsenic levels twelve times higher than pre-operations conditions (Chung, Yuan, & Su, 2007). In 2008, two leading opto-electronic manufacturers in the CTSP were also found to be polluting the Shiaoli River, which provided drinking water for 36,000 residents and irrigation for 1,500 hectares of farmland, resulting in the EPA delivering drinking water to local residents for more than a year, although after a year, the EPA claimed the water was safe and complied with regulations (H.-M. Chiu, 2011).

Unsurprisingly, there was a coordinated call from the environmental movement for stricter environmental monitoring of the CTSP Phase Three or even its complete abandonment. The environmental movement reacted positively when the DPP

government appointed Chang Kuo-long, an environmental scholar and veteran environmental activist, to head the EPA, who then nominated several environmentalists to the EIA committee, giving opportunities for the environmental movement to play a role in monitoring the CTSP expansion. In their review of the EIA reports, the committee members discovered that not only were the CTSP expansion EIA reports ridden with flaws, the expansion would also have considerable environmental and health impacts if built (H.-M. Chiu, 2011).

The CTSP Phase Three comprised of the Houli site and the Chihsin site, situated in the Houli District of Taichung County. Both sites were inappropriate for high-tech industries due to several reasons. First, local residents already had an abnormally high rate of cancer due to local steel plants, paper mills, and an incinerator, while air pollution from volatile organic compounds (VOCs) would affect the water treatment plant adjacent to the planned sites which provide drinking water for more than 1.3 million people (PTS News Network, 2014). Wastewater could have polluted rivers, soil, fisheries and coastal ecosystems, damaging the fruit and flower industry that sustained the local farmers. CTSP Phase Three would also require 137,000 tons of water a day, making its total water consumption a third of the total household water consumption in Taichung City and County (H.-M. Chiu, 2011). To ensure a continued flow of water, the government intended to divert water from the river and irrigation system to the science parks, leading to the drying up of more than 4,700 wells with no compensation planned for the more than 50,000 people who work in agriculture in Houli District. In the Taichung local government's regional plan, Houli was to be an area for "high quality

living", where agricultural and marine resources would be conserved while maintaining sustainable agricultural and fishery industries (Tsai & Lu, 2013). Moreover, land for the CTSP Phase Three was appropriated from local farmers at low prices before leasing them out to developers at prices below market rates, providing these developers with water and electricity at cheaper prices while allowing them to enjoy five years of tax concessions (Tsai & Lu, 2013).

Fig 3: Wastewater from the CTSP being discharged into the Shiaoli River (Photo taken by author)

Despite these flaws, the EIA reviews were approved in 2006 after the state intervened to ensure the project stayed with the investment schedule. As the EIA committee consisted of 14 experts nominated by the head of the EPA and seven from governmental departments, the government could still intervene in the decisions of the

EPA. The environmental camp could not force a second phase EIA review, and construction was allowed for the CTSP Phase Three. However, the environmental movement did manage to form crucial alliances during the EIA process, most notably among the six environmentalists on the EIA committee that had collaborated on the EIA review. This alliance also incorporated local grassroots resistance organized by farmers and included many prominent environmental organizations[3]. The environmentalists on the EIA committee also actively publicized the environmental, health, and social impacts of the new development plan while adding conditions to cases that were approved to allow further contestations of the EIA reviews in the future.

However, environmental activists by now have realized the limitations of the flawed EIA review process, which involves little public participation. In the First Phase EIA review, the committee reviews EIA statements submitted by the developer – most EIA cases get approved through this purely paperwork process. When an EIA review is passed, the developer is only required to hold a public meeting to explain the project without allowing residents to voice their opinion of it. Most of the time, most residents are not even informed of the meeting. Only when a case is deemed as substantially controversial will it enter the Second Phase EIA review, where the committee will conduct a more thorough review while public participation is sought through the developer publicly displaying the project plan and holding public consultation sessions. However, as the EIA review public participation process slowly became an avenue where

[3] These included the Wild at Heart Legal Defense Association, the Taiwan Environmental Action Network, the Taiwan Academy of Ecology, the Ecological Education Center of Koahsiung Teachers' Association, and the Taiwan Watch Institute

environmental protests and heated conflicts could occur, the EPA established a rule stipulating that each residential and environmental organization will only be allowed to speak for three minutes at the EIA meeting (H. Chiu, 2014). These meetings were also often held during working hours, limiting the number of people who could attend. This was especially disadvantageous for the Houli farmers, who had to tend to their farms during the day, while those who attend the EIA review meeting at 9 a.m. in Taipei had to leave Houli at 5 a.m. In the past, coaches were chartered to ferry farmers to the meeting, but the hundreds of farmers attending the meeting realized that only one person from the entire group is allowed to speak and for only three minutes (Y. Y. Tsai, interview, May 23, 2014).

Fig 4: Local farmers protesting at a site visit organized by the CTSP Administration for the deputy head of the EPA. The words say “Anti-pollution, save Houli”. (Photo taken by author)

Even with the public participation mechanism in the Second Phase EIA review, residents and environmental activists found it hard to get their voices heard, as officers and experts representing state and corporate interests actively control the EIA review process. For example, Houli farmers learned during a public hearing for the CTSP Phase Three that the Taiwan Joint Irrigation Association had already signed an agreement with the CTSP Administration and Taiwan Water Company to divert irrigation water for industrial use without any prior consultation whatsoever with local farmers. This is despite the fact that farmers had paid for water rights and their right to access irrigation water is proclaimed in the General Principles of the Joint Irrigation Association (H. Chiu, 2014).

As a result, the environmental movements began pursuing legal avenues for the plans to be aborted. Through the collaboration with a DPP legislator, the environmental alliance managed to force the National Science Council (NSC) to hold two legally binding public hearings, which further led to the farmers bringing the case to the administrative court to prove that the EIA review was passed without going through adequate evaluation (H.-M. Chiu, 2011). The Taipei High Administrative Court ruled in favor of the local farmers and repealed the conclusion of the EIA review of the CTSP Phase Three Chihsin Site in 2008, and in 2010, the Supreme Administrative Court dismissed the EPA's appeal and formally nullified the conclusions of the EIA review. However, despite the ruling, the government (including the EPA and the NSC) stated that their responsibility to protect the interests of corporations was aligned with public interests and thus saw no need to suspend operation of the park. After the ruling, the EPA held an extension

meeting of the EIA review for the Chihsin site while allowing developers to continue construction and companies to continue operations while the review was still being conducted – an unprecedented move.

Meanwhile, to allay fears of possible health risks raised by the loss of their lawsuit in 2010, the EPA selectively interpreted the conclusions of the health impact assessment, which was already conducted accordingly to the requirements of the EIA committee, to show that there was no health risk associated with the CTSP Phase Three (H. Chiu, 2014). This led to a scholar who participated in the assessment to publicly state that the data collected was not comprehensive, as companies refused to provide chemical data, and health impact assessment related to wastewater was not even carried out due to budgetary restrictions (K. Wu, 2010). This in turn led to more suspicion from local residents and environmental activists regarding the information that the government was choosing to relay.

Fig 5: Local residents protesting along the banks of the Hsiaoli River during a site visit by the deputy head of the EPA Ye Hsin-cheng (Photo taken by author)

The extension meeting of the EIA review was dubbed as “ghost EIA” as it was approved within a few months in August 2010 despite strong opposition from the public, leading to another lawsuit filed against the EIA review. In March 2013, the court ruled in favor for the environmentalists again, but the EPA announced in January 2014 that the ruling only applied to the second EIA review, which did not interrupt the operation of the operations already happening in the industrial park. In February 2014, seeing the futility of such repeated lawsuits and the government’s disregard for the judiciary system, local farmers, under the guidance of environmental lawyers, decided to negotiate for an amicable settlement through the Supreme Administrative Court provided that construction and operations of the CTSP is temporarily halted during the

settlement process. Although this request was not entertained, the farmers and environmental activists drafted an amicable settlement agreement in June 2014, and after three rounds of negotiations, an agreement was reached with the EPA, NSC, and the CTSP Administration on 8 August 2014. The key points of the agreement included requiring the EPA to publicize the content of the ruling of the Supreme Administrative Court and the settlement agreement in various news outlets and the NSC establishing an independent NGO with the aim of ensuring that constitutional rights and environmental laws are adhered to. The CTSP Administration also promised that the science park's environmental monitoring committee will now choose academic experts based on recommendations from local residents, farmers, and environmental groups, while the option of "halting development and restoring the site to its original conditions" will be incorporated into the alternative proposals for the next Second Phase EIA review (Tsang, 2014).

Fig 6: A site visit organized by the CTSP Administration for the deputy head of the EPA. Local residents, who claimed the CTSP Administration was lying in their presentation to the officials, later hijacked the visit and took over the explanation (Photo taken by author)

This case study is significant in that it is an example of the environmental movement utilizing the judiciary system to hold the government and corporations accountable, although the government has also demonstrated how it has the ability to circumvent the judiciary.[4] It also marked the shift to a more confrontational interaction

[4] This is by no means the first of its kind. Another prominent case of the government ignoring judiciary ruling for EIA review is the construction of the Miramar Resort on Fudafudak Beach in Taitung County in 2004. The resort, a collaboration between the Taitung County Government and Miramar Resort Hotel Co., involved turning a public beach important to the local Amis tribe into a hotel complex. When construction began in 2005, the planned site measured 0.997 hectares, less than the one hectare required

between the environmental and grassroots movement with the government, especially when initial collaborations in the EIA committee failed to pan out. Although the case ended with an amicable settlement, the decision was made more out of a resignation with existing institutional channels and an exhaustion from the legal battle that had lasted for almost 10 years rather than a casting aside of differences[5]. Grassroots and environmental groups continued to be aggressive in voicing their demands during the negotiation process for the settlement.

Chiu (2011) also pointed out that the case was also an example of effective grassroots mobilization, with effective networking between environmental organizations and local residents. These local farmers' stories also managed to garner widespread support from other Taiwanese, turning public opinion against high-tech industries and their pollution. The working knowledge farmers have of local hydrology,

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for an EIA review. However, after expansion plans resulted in the resort going above one hectare, the developer applied for an EIA in 2006. The construction was found to breach several environmental regulations and was deemed illegal by the EPA in 2007, while in 2008, the construction permit was ruled invalid due to the lack of EIA prior to construction. However, the Taitung government gave the project a conditional pass, defying all judiciary rulings, and allowed the completion of the resort. The Supreme Administrative Court upheld appeals regarding the construction permit and EIA in September 2011 and January 2012 respectively, with the court ruling that the project should be halted immediately. Currently, the resort remains on Fudafudak Beach, although it has not started operations. The movement against the resort, which started in 2004, involves environmental groups, indigenous rights groups, local residents, and expatriates. Various protests were staged, including a camp-in on the beach in June 2011 and a march from Fudafudak to Taipei in April 2013. The latest verdict came from the Kaohsiung High Admistrative Court in October 2014, which overruled the resort's most recent EIA approval, as the review committee had included five Taitung County officials and three unqualified committee members. For more information, see Liu (2012).

[5] Note that the average age of the six farmers filing the lawsuit against the EPA was over 60 years old.

land use, and geological conditions also meant that lay knowledge was effectively harnessed to counter the decisions of officials, who were portrayed as detached from local conditions. Such knowledge proved to be much more effective in the litigation cases than those produced by consultancy companies hired by the developers. This also allowed the environmental movement to be broadened, as various social groups with minimal previous interactions with environmental groups became incorporated into the environmental movement. The citizens' associations in Houli became the main advocates of the movement, backed by the resources and know-how of the environmental groups. As the farmers were not reliant on the CTSP for employment or for their livelihood, they did not have to worry about their own interest when calling for the halting of CTSP's development.

The fight against the CTSP Phase Three also managed to strengthen the ties between environmental groups while also garnering support from professionals that decided to contribute their time and skills to the movement, including lawyers, doctors, and academics in the fields of social science, environmental science, and public health. The fight has also been publicized in various university campuses, with professors bringing their students to the site to conduct tests and surveys, resulting in the formation of student support groups such as the Shiaoli River Youth Taskforce and the Anti-CTSP Youth (H.-M. Chiu, 2011).

Finally, a message had been sent to corporations involved in the high-tech industry that environmental groups and local residents are constantly monitoring for pollution and environmental injustice and that such injustice also encompassed social

issues such as the loss of livelihood. Policies that unjustly favor corporations, such as tax subsidies, the skirting of EIA regulations, and the limits of environmental democracy, have been made known to the public, and this newfound awareness will hopefully will bring about tighter environmental regulations in the future. High-tech corporations now realize that, after being shielded by the government since the 1980s, they have now become the direct target of environmental groups. While in the past, the state had absorbed social challenges on behalf of the corporations by dealing with land disputes, infrastructure, labor, and environmental damage, the CTSP Phase Three case was directed against the main developer, AU Optronics (AUO), sparking off subsequent protests against AUO and its main purchaser, Acer.

2.3 Kuokuang Petrochemical Plant

The naphtha-cracking industry in Taiwan took flight in the late 1960s, where it was seen as an engine for post-war industrial development. By 1995, there were already seven naphtha crackers on the island, with an eighth proposed by the state-owned China Petroleum Corporation (CPC), which owns Kuokuang Petrochemical Technology Co. It was first proposed that the plant be located in Yunlin County in 2005, but as it failed to meet the EIA review, it was moved to Dacheng in Changhua County, where local governments were more welcoming of the petrochemical plant. Although the Kuokuang project was one of the representative cases brought up by the DPP during their governance as part of the “Big Investment, Great Warmth” program, it was only

after the KMT's win in the 2008 presidential elections that the project became a "National Major Investment Project" (H.-Y. Wu, 2014).

The construction of the petrochemical plant immediately drew widespread resistance from environmental activists due to the risk it might have on the health of the local population and ecosystem. Firstly, the project violated the "National Preservation Project of Taiwan's Shore and Tidal Lands," a state regulation established in the 1970s to project Taiwan's shorelines. As the petrochemical plant was to be located in a "medium-range protection zone" marked as a Conservation Wetland under the Ramsar Convention, an area also known for its oyster fisheries and populations of the endangered Taiwanese White Dolphins, the plant was supposed to "blend in with the natural surroundings," being "barely noticeable" so as to preserve the natural ecosystem (Grano, 2014). The petrochemical plant did not adhere to this regulation. Furthermore, developers were also required to obtain a special permit if their developmental activity was within three kilometers of a wetland, according to the Regulations for Non-Urban Land Use – a permit the developers did not apply for. The water-intensive nature of the plant would also add further stress to the water-deprived Dachen region while leading to silt accumulation, saltwater intrusion, and land subsidence. Air pollution in the form of dioxins, sulfides, and PM2.5 was also a potential health risk, potentially resulting in 350 to 550 deaths from cardiovascular and respiratory diseases annually (S. Lu, 2013). Higher greenhouse gas emissions and impacts on fisheries were also other reasons raised to oppose the project.

Ultimately, protestors were unsure whether the overall financial benefits of the project would outweigh the costs, with activists also accusing the government of not taking into account social and environmental costs in their cost-benefit analysis, for the EIA conducted did not include the impact on the livelihoods of affected fishermen, the amount of compensation, or the effects on the local wetland ecosystem with the discharge of wastewater. The total cost of the project fluctuated between 56.9 billion TWD (about 1.84 billion USD) to 112.1 billion TWD (3.62 billion USD) per year, with financial returns expected to be only about 35.6 billion TWD a year (1.15 billion USD) and with most of the products expected to be exported (Grano, 2014). Activists also brought up the importance of Changhua as the "breadbasket of Taiwan," as the county produces 30 percent of the country's rice, 80 percent of oysters and chicken eggs, and 40 percent of pork and vegetables (S. Lu, 2013). The general opinion of the environmental movement was thus that the project was not serving societal needs while bringing interest to only a small minority of pro-business elites, not to mention that the project was violating the EIA Act (Y. Y. Tsai, interview, June 23, 2014).

At the same time, proponents of the plant argued that the petrochemical industry is essential for various other key industries in Taiwan, including the textile, auto, and electronics industries. The plant was thus required if Taiwan hoped to be self-sufficient in its petrochemical production, with proponents citing overseas examples of petrochemical industries that are viewed as non-polluting, such as the Netherlands, Japan, and Singapore (Liu, 2010). A publicity campaign was also launched asking the

public to “imagine a life without petrochemicals” in a bid to convince the public of the importance of sustaining Taiwan’s petrochemical industry (Lai, 2012).

The concerted response from the environmental movement was seen as a big success, as they managed to turn public opinion against the petrochemical plant project through concerts, workshops, site visits, and newspaper articles, bringing the attention to members of the public that were not aware of the issue previously. Leading the protests were members of the arts and cultural community, with prominent poets like Cheng Wu and writers like Ming Yi Wu publishing poems and books that harshly criticized the project, continuing what Thornber (2012) proposed as a strong tradition of using literature to oppose environmental degradation in late 20th century Taiwan. With Cheng Wu at the lead, he managed to recruit various writers, singers, and artists into the movement, who through their connections with the print media, Internet, television, and broadcasting, imprinted the issue into the conscious of the masses (H.-Y. Wu, 2014). The Taiwanese White dolphin, an endangered cetacean endemic to the coast to Western Taiwan, was used as an unofficial mascot for the movement. Academics were also roped into the campaign, with 18 experts from Academia Sinica (seen as the highest academic institution in Taiwan) signing a petition against the construction plans on 6 July 2010, confirming the three arguments that the construction would destroy the wetlands, the emissions would affect residents’ health, and that it went against the Kyoto Protocol’s goal to reduce carbon emissions by the petrochemical industry (PTS News Network, 2010). Professor Tsuang Ben-jei from the National Chung Hsiang University also pointed out that the Sixth Naphtha plant had already caused

considerable harm to the health of residence living nearby, with a conservative estimate of 1,356 deaths per year if the Kuokuang Petrochemical Plant was to be operational (Liao, 2010).

Environmental groups[6], who were the main drivers of the movement, also used the experience from the Sixth Naphtha Plant to question the safety of the Kuokuang Petrochemical Plant. From 2009 to 2010, the Sixth Naphtha plant experienced two poisonous substance leaks, a factory fire, and a gas explosion due to a petroleum leak, with the safety of the Sixth Naphtha plant becoming a key point of contention during the mayoral election in November 2010. Many youth groups opposing the project were formed, creating a young generation of environmental activists who helped organize in their respective universities and schools. As a result, university students formed the bulk of protests against the project, including a demonstration in front of the Presidential Palace on 13 November 2010 that drew more than 10,000 participants and a nationwide protest in seven counties and cities on 20 April 2011 (Nownews Network, 2011; Y. F. Wang, 2010). A petition led by the six main environmental groups also garnered 70,000 signatures (Jennings, 2011b).

Apart from this, environmental groups also actively participated in EIA meetings and public hearings while also engaging in lawsuits against the CPC and government through a legal firm Primordial Law Firm and an NGO specializing in legal matters, Wild at Heart Legal Defense Association. The public's attention on the lawsuits can be seen in

[6] These environmental groups included Wild at Heart Legal Defense Association, Changhua County Environmental Protection Union, Matsu Fish Conservation Union, the Taiwan Green Party, Taiwan Environmental Information Association, and The Society of Wilderness.

April 2011, when a public hearing on the case drew almost 400 members of the public (Jennings, 2011b). The main point of contention for the lawsuits was that the EIA review committee should have halted the case as it violated two of the government's environmental regulations. Instead, the EIA review committee halted the construction of the project but with the offering of two alternatives – either to permanently stop the project or to allow its continued development through the approval of certain conditions as stated by the government (Grano, 2014). With public sentiments increasingly against the Petrochemical plant, President Ma Ying-jeou personally announced on 22 April 2011 that he disapproved of the Kuokuang Petrochemical Plant being developed in Changhua and that he planned to change the Dacheng wetland into a nationally protected wetland in the near future (Tsing, 2011). This statement effectively killed the project, and after discussions with directors and shareholders on the 27 April 2011, CPC decided to shelve the project, but this did not avoid complains by the Kuokuang chairman about the frequent policy shifts by the government and the overreliance on academics and experts in the EIA review process (Central News Agency, 2011). Although this spelt a victory for the environmental movement, many also questioned how much of a success it ultimately was, as the project was abandoned after President Ma's political statement rather than through the EIA review process. The failure of the lawsuits against the CPC in getting them to abandon the project reflected the procedural shortcomings of the EIA review process and the judiciary system. In order to achieve its goals, the environmental movement had to count on the words of the President to achieve its goal, who had billed himself as an environmentalist as he

prepared for a re-election in the upcoming January 2012 Presidential elections (Jennings, 2011b). Moreover, in his statement, President Ma did not completely nix the idea of the plant, instead proposing that officials review Taiwan's industrial structure and policy direction while moving towards high-value development such as tourism, green energy, and high-value farming (Jennings, 2011a). There were plans in 2012 for the project to be located offshore in Malaysia, prompting accusations that Taiwan was attempting to outsource its pollution, although the project was later scrapped too, as the rise of shale gas as an alternative meant that the cost of production would have been too high for the project to be economically viable (Asia Sentinel, 2012; Song, 2013).

The protest against Kuokuang Petrochemical Plant has demonstrated that environmental movements, upon successfully reaching a certain level of participation and organization, were able to affect the policy decisions of the government, especially when done during strategic times such as pre-election periods when politicians try to quell societal discontents. The use of protests and resistance to amplify their discontents thus worked in their favor to change the dynamics of the interaction from a "government-movement" one to a "government-public" one. However, while power might have shifted from the political elite to the public, the distribution of power is still ultimately imbalanced, with corporations and pro-business government officials holding much sway in the EIA review process. There are thus still many structural constraints on the environmental movement in Taiwan.

Chapter 3: Dynamics of Government-Movement Interaction

3.1 Aggressive Resistance

From the history of the environmental movement and the three case studies above, we can see how the pervasive grievances of the environmental movement have translated into hostility towards the KMT government. Initially, this hostility translated into votes for the opposition, but when the DPP was voted into power, its neglect and betrayal of the environmental camp meant the breaking down of trust between the environmental movement and the DPP. This perhaps could explain the strained relationship between the movement and the government, for any government that was in power had embraced pro-developmental goals, showing that the problem was not so much the KMT per se as it was pressure on the government to meet certain economic goals, regardless of which party was in power. As both the KMT and DPP hold the incumbent government accountable primarily based on the country's economy, a pro-development image was favored over a pro-environmental one – often viewed by Taiwanese politicians as opposing ends of a spectrum.

At the same time, the cases above show that aggressive resistance against the government, such as protests, is useful in achieving certain environmental goals. For every environmental issue, there was a concerted effort to achieve mass mobilization of people, beginning with the local grassroots and expanding to a national scale. The Kuokuang Petrochemical case was an excellent example of how an environmental issue affecting a local area was made into an issue affecting the national consciousness through the effective utilization of mass media and the tying of the issue with the plight

of the Taiwanese White dolphins, lending the issue a much wider appeal. Such aggressive resistance also plays into a deliberate effort of painting the government as the "enemy," sending a message that discontent against the government's treatment of the environment will translate into disapproval for the government. The Kuokuang Petrochemical plant case has shown how a controversial environmental project has been halted due to upcoming elections, reflecting both the importance of gaining electoral support in Taiwanese politics and the efficacy of tying environmental issues to public support. In fact, a 2001 surveyed showed that more than 56.5 percent of Taiwanese people considered the environmental policy of a candidate to be "important" or "very important" when casting their votes, and when asked to choose between two hypothetical candidates, one pro-economic development and one pro-environment, 65.3 percent chose the latter (H.-H. M. Hsiao et al., 2001). The same survey also revealed that the Taiwanese population showed a high degree of sympathy for environmental protests and activists who devote themselves to the cause, reflecting how the movement had managed to win support from the masses (H.-H. M. Hsiao et al., 2001).

Looking at its history, organizing protests has always been a key trait of the movement. The rising environmental consciousness in the 1980s, together with the increasing strength of the *tangwai* movement, allowed a political opportunity to challenge the political system, which was experiencing a decline in authoritarianism. This decline allowed the push for social change to take place, including staging protests to oppose projects deemed harmful to the environment, with victims of earlier

environmental issues realizing that protest brings results, at least in achieving some of their immediate objectives (Y.-S. F. Lee & So, 1999). The next step was to then translate this shortsighted "victim consciousness" into a more long-term "environmental consciousness." Early pioneers like Edgar Lin also led environmental NGOs to openly criticize policies while increasing the space for acceptable dissent, and at the same time, they lobbied for environmental protection, nudging the gradual receding of authoritarianism into full-fledged democratization (Robert P. Weller, 2006).

Similar cases have occurred in Hungary in the 1980s, where independent citizens groups like the Duna Kor (Danube Circle) were set up to oppose the damming of the Danube. Their initial goal was to break the secrecy kept by the Communist government over the dam project, and despite official threats, censorship, and the revoking of their passports, members of Duna Kor managed to organize a petition, publish newsletters, and make links with environmentalists abroad (McCully, 2001; Vari & Tamas, 2010). This led to a petition with over 150,000 signatures calling for a referendum and the appointment of prominent reformist Miklos Nemeth as Prime Minister, eventually forcing the government to suspend work on the dam and ushering the first free elections in Hungary the following year. Dawson (1996) also looked at how anti-nuclear protests in the late 1980s were key in the formation of national identity in Armenia, Lithuania and Ukraine, allowing the opportunity for social mobilization and resistance against the Soviet Union. Like Taiwan, the environmental resistance was often aligned with the fight for democracy, providing an issue that citizens could easily rally around.

However, while the environmental movement had managed to create normative changes in the government while creating more avenues for public participation in policy channels, it is questionable whether the movement has effected real change in the government's mindset towards the environment. Both the Kuokuang Petrochemical Plant and the CTSP have shown that the Taiwanese government, in its pursuit of pro-business agenda, was still willing to violate certain principles of the rule of law, rendering institutions like the EPA and environmental reviews worthless while simultaneously undermining the judiciary system (Moody, 1991). While these mechanisms are in place, it is questionable whether they are adequate or fully implemented. Meanwhile, the EPA has become an organization that is both perceived by the environmental movement as weak and ineffective and viewed by the government and corporations as disruptive and easily malleable (Y.-S. F. Lee & So, 1999). The EPA is a junior partner within the cabinet, relatively powerless against the MEA, which has a much more pro-development stance (M. Ho, 2005b). This will also explain why victims and environmental activists have often taken more disruptive course of actions against the government both in opposition of its disregard for the very institutions it had created to protect the environment and its utilization of the EPA and EIA to work against the environmental group.

Pierre Bourdieu (1977) outlined practice theory as a way to study how humans seek agency within the social structure in place, creating a relationship where both goes back and forth in a dynamic relationship. Through this dynamic interplay, humans create and transform their surrounding according to their diverse motives and intentions.

Sherry Ortner provided an update to the theory in 2006 by illustrating how practice theory can be applied to enacting social changes, with inequalities in a social system encouraging people to "push back" against the dominant structure. Moreover, she also gives new definitions to the term "agency," splitting it up into two distinct categories – agency as power and agency as the "pursuit of projects" (Ortner, 2006). In the case of the former, those in power define agency, with the forms of resistance one can take limited to what is imaginable in the system of social structure. Resistance thus aims to overturn the dominant social structure while still acting within the confines of it. This would be the scenario during the antecedent of the environmental movement in Taiwan, where activists sought to entirely change the government's treatment towards the environment while still taking into account the limits of their action in the authoritarian society. Agency as the "pursuits of projects," on the other hand, means the pursuit of motives that do not seek to overturn the current dominant structure, instead choosing to enact changes within a particular system. This is more applicable to the environmental movement now, where a democratic government provides fertile ground for organization and resistance by the environmental groups. The mechanisms and institutions in place supposedly favor them, and with the aim of keeping these systems in place, environmental groups are trying to change the authorities that are preventing these mechanisms from achieving their desired effect for the environmental movement. The relatively young democracy of Taiwan means that the environmental movement is still battling remnants of authoritarianism in the government while believing that the full potential of democracy has yet to be realized, even with the change of government

from the KMT to the DPP and back again (Y. C. Lu, interview, July 2, 2014). There is a perception that the KMT political elites are still harboring a "government-in-exile" mentality in which the island is viewed as a resource to be maximized without considerations for the long-term sustainability of the island, as they pin their future economic and political prospects on Mainland China (S. W. Lu, interview, November 30, 2014).

Ho (2005) also mentions the paradox of the Taiwanese environmental politics after the power transfer from the KMT to the DPP in which the gaining of procedural participation by environmentalists had somehow forestalled further environmental democratization. The weakening authoritarianism of the state had allowed the voice of the environmental movement to be heard but had also opened up lobbying channels for various special interests to affect the government, strengthening the private sector at the expense of the state's autonomy. Meanwhile, local factions were also given greater latitude to profit from land speculation and public construction projects, and in cases like the Kuokuang Petrochemical Plant, the local headmen were highly supportive of developments due to the potential profits that could be made from them (S.-Y. Tang & Tang, 1997). There were also certain degrees of conspiring between the KMT and local governments to engage in land speculation through urban planning and land appropriation (J. Hsu, 1995).

While the DPP actively engaged environmental activists in their policy making, they soon found out that there was little actual power to enact changes, and the DPP government lacked both a strong president and the dominance in the legislature that

had allowed the KMT to swiftly implement policies in the past (Rigger, 2002). While the DPP brought their political ambitions into the government, it was not matched by the mindset of the bureaucrats that still remained loyal to the KMT. In the case of the anti-nuclear movement, officials from the MEA and Taipower openly discredited the DPP's anti-nuclear policy as unprofessional, while the Energy Commission of the MEA overtly opposed Chen's move to upgrade target ratio for renewable energy by 2020, citing technical and economic problems (M. Ho, 2005b). The Energy Commission also rejected a wind-power plant proposed by the DPP government in July 2001. Gamson (1975) defines the success of a movement on two criteria – acceptance and advantage. While the former refers to acknowledging movements as a "valid spokesman for a legitimate set of interest," the latter looks at whether the movement's beneficiary has gained something material. In the first scenario, the state can install mechanisms and proposed policies that have been sought after by environmental activists but without allowing their participation in it. In the second scenario, more applicable to Taiwan, environmental activists participate in the decision-making of policies, but without creating any eventual substantial impact. Thus, while environmentalists still recognize value in the EIA, as seen by the active public participation in the EIA of the Kuokuang Petrochemical Plant and the CTSP, there is also a greater need to stage resistance that does not involve partaking in institutionalized mechanisms.

3.2 Utilitarianism Versus Egalitarianism

This opposition to the KMT's pro-development stance can also be viewed as a disagreement of the utilitarian mode of decision-making by the government in which decisions are made on the principles of cost-benefit analysis and choosing the act that will bring about the greatest benefits. For Taiwan, these benefits are primarily determined by the economy, although social concerns sometimes do factor into the decision-making, especially when it concerns electoral support. However, one of the critiques of utilitarianism is that it would lead to the sacrifice of some people's rights for the good of the majority (Hudson, 2001). In the case of the anti-nuclear movement, the rights to a radiation-free environment have been taken away from the Tao people, although the benefits of nuclear power undoubtedly benefit a larger population of people. The implementation of compensation policies for the Tao people, such as investments in public infrastructure for local communities, utility subsidies, and employment, is a way to redress distributive inequity, although its effect on the Tao people's attitudes remains questionable, as the main grievance of negative health effects remains unaddressed. On the contrary, this move has been seen by locals as a way to "buy off" local opposition while acting as a way to divide and conquer the tribal communities on the island (Fan, 2006a). In the US, anti-nuclear activists have also taken up the term "national sacrifice zone" to describe areas where nuclear waste sites are stored, exposing the relationship that marginalized communities have to these toxic sites and challenging the existence of nuclear power that creates such zones (Endres, 2009). The government thus clashes with the environmental movement on this principle

of utility, as such modes of decision making do not fare well in solving environmental conflicts in which the rights of the minority are often overlooked (Fan, 2006a).

In seeking environmental justice, it is also important to highlight two definitions of what justice entails, namely distributive justice and procedural justice. According to Shrader-Frechette (2005), distributive justice presumes that a fair distribution of environmental benefits and burdens is an equal distribution, with "all the things being equal, rich and poor, colored and white, educated and non-educated, be[ing] treated equally in the distribution of society's environmental benefit and burdens" (p. 26). For the above three cases, distributive justice was not promised, as those living around nuclear waste storage sites and industrial projects suffered greater health risks even though the government argues that the entire society benefits from the resulting economic effects. For the utilitarian government, the benefits the country can gain from these projects outweigh the cost on the local communities. Meanwhile, the environmental movement operates on a more egalitarian principle, insisting that the negative impacts on the local community can never be offset by the supposed benefit to the country. Nevertheless, the environmental movement also has to address the over-idealism of its egalitarianism stance, for a fair distribution of negative environmental impacts is virtually impossible. For example, spreading out the storage of nuclear waste not only is not only logistically impossible, but will also have the counter effect of imposing potential health risks on the entire population. This clash of utilitarianism and egalitarianism thus explains why the environmental movement has been quick to point out the injustice committed by the government that is perceived to benefit political and

corporate elites, while the government has often portrayed the environmental movement as idealistic and against the greater good of the country.

Looking at procedural justice, the focus will then be shifted from the outcomes of environmental actions to ensuring justice in the procedures through which such actions are determined. G. C.-L. Huang et al. (2013) draws up six key elements of procedural environmental justice, namely non-discrimination, political participation, access to information, incorporation of local knowledge, trust between stakeholders, and recognition. By applying the above elements to the three case studies above, we can see that procedural justice is still lacking for the environmental movement in Taiwan. Firstly, non-discrimination is described as ensuring equal treatment in the decision-making process, with the lack of unequal protection resulting from "undemocratic decisions, such as exclusionary practices, conflicts of interest, or public hearings held in remote locations and at inconvenient times" (Bullard, 2000, p. 10). This was evidently breached in the case of CTSP, where public hearings of a case in Taichung County were held in Taipei during working hours.

The element of political participation aims to achieve more thorough participatory local input and control over an environmental decision with proper discussion from the decision's initial formulation to its implementation. This is sorely lacking in the case of Taiwan and has been a key gripe of environmental groups, especially since the government has a common practice of holding public consultations only after decisions have already been made, an approach commonly dubbed the "Decide-Announce-Defend approach" (Kunreuther, 1995). The most prominent example

of this was the choosing of Orchid Island as the site for nuclear waste storage without any information being released to the local residents until the site began operations.

This also went against the third element of information access, as information was not disseminated to everyone in the local community affected by the nuclear waste storage site. What little information released that was filled with technical jargon in Han Chinese rather than the local Tao language. By telling local Tao residents that the nuclear waste storage site was a fish-canning factory, the government was not only blocking information access but also providing misinformation. This was also the case for the CTSP, where academics were paid by the CTSP administration to provide technical justifications for the project that many of the local farmers did not understand. As a result, local farmers began to conduct their own data collection and information gathering to present the facts in a manner more accessible to their fellow farmers and community members.

The CTSP case was also a classic example of how the fourth element, incorporation of local knowledge in decision-making, was consistently overlooked. Throughout the EIA review process, local farmers had shown their superior knowledge about local hydrological, atmospheric, and geological conditions from living and working in the land for a long period of time. Their experiences from suffering ongoing environmental hazards from local steel plants, paper mills, and an incinerator allowed them to speak about the actual health risks from industrial development. Nevertheless, their knowledge was never incorporated into the EIA process, which relied on scientists

chosen by the EPA who conducted analyses and computer simulations in their own laboratory (H. Chiu, 2014).

The fifth element of trust between stakeholders is also missing, as the consistent denial of facts, such as the presence of contaminated oysters due to the HSP and the cover-up of damaged nuclear waste canisters on the Orchid Island site, has meant that many affected communities eye the government and industry with suspicion. This in turn has led to public opinion that the government has been ineffective in carrying out its own environmental protection laws and regulations, with almost 65 percent of respondents in a 1999 survey claiming that government execution of environmental laws were ineffective (H.-H. M. Hsiao et al., 2001).

Finally, the last element of recognition entails sensitivity to differences between different groups, including cultural differences – highly pertinent especially when applied to indigenous groups in Taiwan. For example, the siting of the nuclear waste site was an outright disrespect to the customs of the local Tao people. The Tao people believe in the concept of "Anito," an evil spiritual being that wanders in the mountains and forests of Orchid Island to bring death, sickness, accident, and misfortune (Chi, 2001). The Tao's perpetual fear of "Anito" was multiplied by the arrival of the nuclear waste storage plant, seen as a huge and powerful "modern Anito" that has caused the increased number of cancer-related deaths on the island. Another example of this lack of sensitivity is in the decision to establish a national park to preserve the Chilan Cypress trees at the intersection of Ilan, Hsinbei, Taoyuan and Hsinchu Counties. Although political opposition was credited as the main reason for its eventual failure, another key

reason was that the national park covered land inhabited by the indigenous Atayal tribe (T.-J. Wang, 2012). The establishment of the national park would have banned all hunting within its boundaries, depriving the local Atayal people from an activity that holds much cultural and spiritual meaning to them. The establishment of national parks did not bring any benefit to the indigenous communities and seriously restricted their traditional economic and cultural activities, including the hunting of wild boars and monkeys that destroyed their crops and the removal of rocks and trees from their fields (Chi, 2001).

By considering environmental procedural justice, we can see how minorities disadvantaged in terms of education, income, and occupation not only have to bear disproportionate amount of environmental risk but also have less power to protect themselves in the decision-making process (Shrader-Frechette, 2005). Developments and facilities of questionable environmental integrity have traditionally been sited in areas whose populations would be the least informed about, and thus least able to stop, the environmental implications of the projects. Procedural environmental justice is often seen as equally, or even more, important than distributive environmental justice, as the processes of environmental decisions will affect the eventual outcome.

This clash of egalitarianism and utilitarianism can thus be said to focus more on the issue of procedural environmental justice, at least in the case of Taiwan. From the Kuokuang Petrochemical Plant and CTSP, we can see both the exclusion of local grassroots and environmental movements from the decision making process as well as the erosion of the judiciary system through the protection of corporations by the

government. The environmental movement in Taiwan is not focusing so much on the distributive environmental justice, not only because it does not have an answer to address it but also because procedural environmental justice will help alleviate distributive environmental injustice. That said, distributive environmental justice has been brought up as a way of garnering support from the public by appealing to their sense of injustice when certain minority groups are suffering from the negative impacts of environmental projects.

Ultimately, environmental activists are campaigning for greater participation in the environmental decision-making process, which will allow them to address the government's utilitarian mode of decision-making that takes capitalist profits as the measure of development. The egalitarian mode of thinking employed by the environmental movement stands opposed to the utilitarian mode of thinking of the government, resulting in a relationship that is constantly in conflict. While such a dogged opposition to the government might be crucial for the environmental movement in fighting for environmental rights, it bears the risk of overlooking other possible modes of interaction and actions that can help the movement garner greater public support and political efficiency. The anti-nuclear movement currently faces a bottleneck in getting the government to shut down nuclear plants in Taiwan, especially when doing so will risk bankruptcy of the state-owned Taipower. Meanwhile, environmental groups and grassroots movements continue to be stuck in repeated lawsuits against corporations and the EPA, with any victory in court only to be countered by another flawed EIA review or even a complete ignorance of the court

ruling. Evidently, there is much more the environmental movement can do to improve its efficacy, and the next chapter will look into some of the ways that this might be achieved.

Chapter 4: A More Effective Environmental Movement

4.1 Relationship with the DPP

One of the most important issues the environmental movement will have to address is how they will situate the movement vis-à-vis the two main political parties in Taiwan. The current government bureaucracy is currently still very much entrenched in KMT ideologies, while the President and the majority of the Legislative Assembly still pledge allegiance to the KMT. However, the high disapproval ratings of President Ma (71.1 percent in May 2014) and the recent DPP victory in the local elections all point to the possibility of a return to DPP control in the 2016 Presidential and Legislative elections (Fong, 2014; S. Hsu & Chang, 2014). That said, a DPP President does not necessarily benefit the environmental movement, as previous experiences have shown, and it is still questionable whether the DPP can effectively enact its policies under the political conditions of Taiwan.

One of the criticisms of the environmental movement in Taiwan has been its inability to break from its past strategy of pragmatic alliance-making with the DPP, eroding its ability to be a movement which stretches across party divides (Philion, 2010). The anti-nuclear movement has failed to reach its objectives of permanently halting the Fourth Nuclear Power Plant construction and the closing down of current nuclear power plants, as the anti-nuclear movement has now been construed as one aligned with the DPP despite the fact that the DPP government did not take any active steps to denuclearize Taiwan during its time in power. Moreover, DPP politicians are still regarded as more partial towards social movements, as many have taken up positions as

vanguards of social issues such as women's rights, same-sex marriage, and environmental injustice. For example, all six locally elected KMT legislators supported the Kuokuang Petrochemical project in Changhua, with the sole DPP legislator mobilizing her constituencies to oppose the project (Chia-ling Tang, 2011).

The environmental movement is also still dependent on DPP politicians, as legislators have a stronger mobilizing capacity than environmental activists, and demonstrations often rely on the supporters of legislators to gain critical mass. Secondly, the EIA and other public hearings are often obliged to be friendlier toward legislators, regardless of their political leaning, than toward environmentalists or grassroots members, as the political power legislators hold means that their opinions cannot be ignored by officials (Cabestan & deLisle, 2014). Environmental groups thus often turned to gaining support from legislators in order to obtain political visibility and power, explicitly turning the issue from one that is purely environmental in nature to one that might affect electoral outcomes. Politicians also have access to information disclosed only to elected representatives or avenues for feedback not readily available to the public. For example, DPP legislator Lin Shu-fen arranged a meeting with the leaders of the EPA on 26 March 2014 at the Legislative Assembly on the Waste Recycling Act even though the main speakers at the meeting were the environmental NGOs who had planned the meeting.

From this, we can see that there is still a political and ideological alliance between the DPP and the environmental movement, and this risks the KMT outright rejecting all forms of environmentalism as tools of the DPP. Similar situations have

occurred in Indonesia and India, where government bodies bear considerable mistrust towards NGOs with regards to their mission – whether they really pursue a noble mission to "serve the public" or whether they have a political agenda aligned with the opposition (Karan, 1994; Okamoto, 2001; Randeria, 2003; Swain, 1997). Suharto's "New Order" government disdained non-government involvement in political matters, which it accused the environmental movement of doing, with a high-ranking government official openly criticizing the movement for starting out with protecting the environment but "later involving themselves in political activities" (Gordon, 1998). The cooperation with the DPP to influence policies can be seen as conflated with the DPP's call for a change in government, and the differences between the environmental movement and the KMT then shift from simply disagreements of policies and implementations to ideological mismatch and differing political goals.

Alignment with the DPP can also pose problems when local residents affected by the environmental pollution are pro-KMT in political leaning. For example, in August of 2013, two environmental NGOs – Citizen of the Earth, Taiwan, and Wild at Hearts Legal Defense Association – began to uncover illegal mining operations by Beiyuan Mining Company in the Shuishe Mountains in Nantou County. The mining company began operations in the area, which was a Drinking Water Source Protection Area, while secretly obtaining approval from five government bodies – the EPA, the Nantou County EPA, the Forestry Bureau, the Bureau of Mines, and the Nantou County Department of Agriculture (Citizen of the Earth, Taiwan, 2014). The case was brought to the attention of the NGOs by local community leaders and the owner of a local amusement park, who

both feared that mining would affect water quality while increasing the frequency of rockslides in the area historically prone to such disasters.

Fig 7: Remnants of recent landslide activities at the foot of Shuishe Mountain, where the illegal mining operation was being conducted (Photo taken by author)

Environmental activists from the NGOs had initially planned to seek help from local DPP legislators to expose the actions of the mining company and the government boards through a press conference, but they found their hands tied when the local community leaders expressed their disapproval of DPP politicians and their loyalty to their local KMT legislator who was less keen to speak up on the issue. Local community leaders were thus opposing the mining and the government's approval of the operation, but they were not according blame to the KMT that they were staunchly loyal to, nor were they viewing this as a betrayal by the KMT government. Eventually, a press

conference was called by the NGOs without the participation of any legislators, resulting in less public attention being paid to the event (Y. C. Lu, interview, July 2, 2014).

Fig 8: Environmental activists discussing plans with local community leaders in Yuchih Township, Nantou County (Photo taken by author)

From this example, we can see that while there is value in making alliances with the DPP, there needs to be other modes of operation by the environmental movement that can allow them to function outside the polarized political structure of Taiwan. While support of legislators is crucial in gaining publicity and mass mobilization, the movement needs to look at other ways it can gain support from the general public. This will achieve the two-fold effect of changing the movement into one that spans both ends of the political spectrum while allowing environmental issues to take on political weight that will have real effects on politicians' electoral votes.

4.2 Toward Greater Environmental Consciousness

While local grassroots mobilization has played a key role in pushing Taiwan's environmental movement, many local environmental movements often died down after the issue had been addressed. Environmental cases like the Kuokuang Petrochemical Plant were thus sometimes criticized as Not In My Back Yard syndrome, or NIMBYism (J. Hsu, 1995). There is thus a need to push for a greater environmental consciousness in the general population such that problems of the environment are not seen as localized to an area but as issues that threaten the environmental and political integrity of the island. The anti-nuclear movement has successfully overcome such NIMBYism to frame denuclearization as not only beneficial to those living around nuclear power plants but also an important step in building a safer homeland. The anti-nuclear movement has also shifted its objectives of sharing environmental burdens more fairly to focusing on sustainability, believing that reduction in power usage will outstrip the need for nuclear power on the island.

However, to create a sense of environmental consciousness, it is still important to look back on local networks, considering the incompetency of the political process in allowing the environmental movement to obtain more tangible gains and the need of the movement to distance itself from party politics. A key facet will be environmental education programs in schools in order to inculcate values of environmental stewardship in the younger generation, while conservation field trips and group environmental restoration projects will embed a sense of environmental responsibility in the population. Work has already been progressing in this area, with frequent beach

clean-up activities organized by environmental NGOs drawing more than 7,000 volunteers and local communities have also been roped in to monitor and protect local wildlife (Central News Agency, 2007, 2012). Lyons (2009) argues that while such efforts might appear to only make a small impact, they are in fact aiding in maintaining an appreciation for such vital environmental habitats and inculcating a personal responsibility to preserve and protect them. Lessons can also be learnt from the anti-Kuokuang Petrochemical movement, in which the media was utilized effectively to draw attention to the issue and mobilize the public. In 2013, aerial photographer Chi Po-lin and famous producer Hou Hsiao-hsien collaborated to produce the movie *Beyond Beauty: Taiwan from Above*, a documentary consisting of aerial footage of Taiwan. Through the stunning geographical landscape of Taiwan, the movie asked viewers to question the government's pursuit for development at the expense of the environment and capitalized on people's sense of belonging to the land. The movie broke Taiwan box office records for the largest opening weekend and the highest grossing locally produced documentary, eventually winning Documentary of the Year at the prestigious Golden Horse Awards in 2013. After the initial theater release, the movie was screened at various townships, villages, community centers, and schools across Taiwan, with environmental NGOs holding brief talks after the screening (Delta Foundation, 2014).

Fig 9: Public screening at Huangjia Historic Neighborhood, Houbi district, Tainan City, using the Low-carbon Moving Cinema Vehicle (Photo courtesy of Delta Foundation)

This is what Freud (1962) refers to as appealing to the super-ego of the human, which reflects the internalization of cultural rules and controls the sense of right and wrong. Whereas the id reflects instinctual drives and values instant gratification and the ego seeks to please the id's drive in more long-term, realistic ways, appealing to the super-ego allows people to think about the broader cultural implications of their actions. By creating an environmental consciousness that considers pollution as threatening the rights of the people and the land, people will demand participation in environmental decisions that affect not only themselves but also others around them, thus moving the environmental movement beyond a localized framework. Education is imperative in creating this appeal to the super-ego, as the super-ego is influenced mainly by parents and those who have stepped into the place of parents, such as teachers, educators, and

community leaders (Freud & Strachey, 1974). A similar ideology can be seen in the movement to restore the polluted Bagmati River in Kathmandu, Nepal amidst the lack of political action and a government that has lost the trust of its people. Activists like Huta Ram Baidya have campaigned for a reconsideration of the river's historical and cultural significance, turning the river into a sacred object that belongs to the people living in Kathmandu and the Kathmandu Valley, such that protecting the river becomes a cultural responsibility for the people disassociated with, rather than reliant on, the government (Rademacher, 2011).

4.3 Forging Intra-Movement Alliances

The embedding of such an environmental stewardship in people's consciousness will also facilitate the building of alliances within the environmental movement itself and also among disparate social movements. Building partnerships and networking among various movements will eliminate the NIMBYism mindset often prevalent in social movements, in which issues affecting a group of people are perceived as unrelated and separate, overlooking opportunities for coalition-building. From the cases above, we can see that cases of environmental degradation are often interlinked with other social movements, including indigenous rights (e.g. nuclear waste storage site, Miramar Resort), agricultural rights (e.g. Kuokuang Petrochemical project), and land rights (e.g. CTSP). This opens up avenues for cooperation between social movements, allowing for a greater political voice and a more effective mobilization of supporters.

In fact, such inter-social movements coalition have already begun to take root in Taiwan, most notably in the anti-nuclear movement, which has seen much success in forging inter-social movement alliances so that the movement is now seen more as a social issue rather than a solely environmental issue.[7] Another example is the Homemakers' Union Environmental Protection Foundation, which consists mainly of women in their thirties and forties with a popular support base in middle-class housewives. Eschewing politics, these women see environmental protection as a means to protect the health of their children, running summer camps for children, organizing meetings on child-rearing practices, and publishing books to encourage children to be more independent as a way to discourage molestation and abuse (Kalland & Persoon, 1999). The group has thus broadened the traditional definition of what constitutes environmental protection to include the environment in which children are raised in the country while pushing for women's rights by establishing environmental protection as maternal duties equally important to the male-dominated political sphere. The group also saw their action as opening up access to women uninterested in the overly academic or radical aspects of the environmental movement.

[7] For a full list of the 132 civil organizations involved in the anti-nuclear movement, refer to http://nonukeyesvote.tw/aboutus.php (in Mandarin Chinese). They include religious organizations (e.g. Tong-Kwang Light House Presbyterian Church, True Light Gospel Church), academic institutions (e.g. National Taipei University of Nursing and Health Science, Taiwan Association of University Professors), human rights groups (e.g. Concern Alliance for Filipino Chinese, Taiwan Association for Human Rights), gender advocacy groups (e.g. Taiwan Women's Link, Taiwan LGBT Family Rights Advocacy), labor movements (e.g. Taiwan Rural Front, Taiwan Labor Front), and other various groups (e.g. National Taiwan Extra-Terrestrial Research Association, Global Coalition for Taiwanese Languages).

Another key ally for the environmental movement has been religion, with a notable case being the local Mazu temple's effort in organizing resistance against the Fourth Nuclear Power Plant in Gongliao, Hsinbei District, with the temple's main deity, the goddess Mazu, even termed the "anti-nuclear power goddess" (F.-L. Shih, 2012). Underlying this is the strength religion still has in Taiwan, with local temples functioning almost as "territorial cults" that "coalesces around the worship of a deity conceived as having jurisdiction over a certain spatial territory," constituted in "communal rituals" that community members congregate and participate in (Sangren, 1987, p. 55). In some cases, temples were also the only important organization uniting villagers in a community, making religion an important nexus of power and action (Robert Paul Weller, 2001). Major community temples also collect informal tax from the residents to fund festivals or activities, controlling considerable wealth donated by grateful patrons (Kalland & Persoon, 1999). The first anti-nuclear protest in Taiwan's history was held in the Mazu temple, becoming an area where Gongliao villagers repeatedly expressed their frustration and resistance against the construction of the Fourth Nuclear Power Plant. In 1993, the Mazu statue in the temple was carried by Gongliao residents to the Legislative Assembly in Taipei and placed on a table in front of the chairperson, where she could monitor the budget review of the Fourth Nuclear Power Plant (F.-L. Shih, 2012). The Mazu temple was thus credited for bridging the KMT-DPP political divide that had been present in Gongliao and creating a unified local movement across party lines against the nuclear power plant. In subsequent anti-nuclear protests, the goddess Mazu has been invoked as a figure that could cross party divides and garner support for the

movement across the political spectrum. The Taiwanese White Dolphin, also known as the "Mazu fish," was also utilized during the anti-Kuokuang Petrochemical Plant movement, lending cultural significance to ensure its continued existence.

The Buddhist Compassion Relief Tzu Chi Foundation, one of the biggest Buddhist humanitarian organizations in the world, also includes recycling as one of their key teachings, setting aside a significant fraction of their funds to meet environmentally friendly goals, encourage recycling and waste reduction among its followers, and operates 5,600 recycling centers around Taiwan (Jennings, 2014b). By using the Buddhist teaching of leading a simple life to change consumer behavior, religious groups have become a potent force for social change in Taiwan.

However, environmental groups have so far avoided religion as an ally in their movement, partly because the social origins of many of these activists are urban, highly educated, and secular in nature (Kalland & Persoon, 1999). Moreover, Tzu Chi has also been embroiled in lawsuits with environmental groups since 1997, when it initiated a plan to build a social welfare park within an environmental conservation area near Dahu Park, Taipei City, drawing strong opposition from both environmental groups and local residents (Mo, 2013). However, there is a need to acknowledge that religion, as the protector of community welfare as opposed to national interests, provides an established social network that can be mobilized, especially if the environmental movement hopes to seek mass support outside of the political framework.

It would also be a mistake to assume that social movements in Taiwan all have common interests that do not conflict with each other. The failure to establish a

national park at Chilan belies fundamental differences in the values of environmental groups and indigenous rights groups and shows how the realization of environmental goals might curtail cultural rights of the indigenous people. Religion is also not impervious to politics. Amidst resistance to plans by Formosa Plastics to build the Sixth Naphtha cracker in Yunlin County, the company's chief executive officer Wang Yong-wing called on the major local temples and offered generous donations, securing their non-involvement in the matter (Kalland & Persoon, 1999). There is also dissonance between how national environmental groups and localized environmental groups view their work. Many national NGOs disapprove of localized environmental movements due to the differences they imply in the view of nature – while national NGOs usually take on a more universalistic and biocentric view, local organizations fundamentally work to serve their particular locality, with an emphasis on human welfare (Weller, 2006). There have been examples of localized resistance abandoning the environmental movement once their problem has been resolved, harking back to the NIMBYism still prevalent in people's views of environmental problems.

The Green Party, which broke away from the DPP, has attempted to be a uniting political force for the various social movements on the island. While its main focus is on environmental issues, its key objective is to provide a third political force that challenges the current two-party political system while representing the interests of oppressed minority groups in Taiwan (Green Party, 1996). In the 2012 legislative election, the Green Party garnered 1.7 percent of the votes, short of the 5 percent threshold to win a seat in the legislature, although it did make it the largest extraparliamentary party in

Taiwan (Kuan & Wu, 2012). The party's strongest showing was on Orchid Island, where the Green Party candidate ran on a strong anti-nuclear platform. In the recent local elections, Green Party candidates in Taoyuan and Hsinchu County, both counties facing controversial environmental projects, also won seats in the Taiwan Consultative Council. The Green Party is thus proving to be a credible political force in the near future, especially if local residents are willing to support the party as a way to solve controversial environmental projects in their area.

4.4 Creating Transnational Alliance

Another possible avenue to increase the strength of the environmental movement is to look at creating transnational alliances with environmental movements outside of Taiwan, creating cross-border solidarity and technical resources to operate within the political structure that is inherently disadvantageous to them. Pellow (2007) and Porta (2004) have both outlined the pragmatic merits of transnational environmental movements in addressing local injustices, especially in addressing environmental issues pertaining to the Global North and South such as the Bhopal disaster in India in 1984 (Caldwell, 1991). Transnational activism in Taiwan NGOs has been relatively weak as compared to that of other Asian countries largely because Taiwan's lack of official recognition as an independent nation means that many transnational NGO networks do not site their headquarters or secretariat in Taiwan (Jie, 2001). There has also been a lack of interest from Taiwan's NGOs to contribute to the environmental movement or electoral monitoring of other countries, what Folk would

term the lack of "global citizenship" – essentially caring about the political economy of the planet, with arenas of action and allegiance transnationally oriented (Folk, 1993). One key reason is that many civil activists in Taiwan still feel that civil society in Taiwan is still not well developed due to the relatively short history of its existence, resulting in them still being absorbed in domestic concerns (Y. C. Lu, interview, July 2, 2014). The lack of international support also means that environmental groups in Taiwan often have to deal with limited financial and human resources while tackling domestic issues, discouraging spending elsewhere and further exacerbating a vicious cycle of limited international participation. Chen (2010) also explained that Taiwanese NGOs initially came to know other Asian NGOs mainly through Western NGO-dominated networks or Western intermediaries, resulting in a short history of regional solidarity. Nevertheless, the key issue is still the lack of international legitimacy, a problem not shared by NGOs in other countries. Many Taiwanese NGOs view participation in inter-state systems as vital for their cause, such as through the implementation of international statues and conventions that could hold the government accountable for its actions through international monitoring (Jie, 2001).

Social movements have actively sought out transnational collaboration as a way to seek advisory services and technical assistance while holding the government accountable to international treaties. An example is the women's rights movement's active canvassing for the adoption of the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) in 1994 through the "We Want CEDAW" campaign that was eventually ratified by the Legislative Assembly and signed into law by

the President in 2007. Although Taiwan is refused participation on the United Nations (UN) level and thus does not submit any state report at the UN headquarters, international experts still come to Taiwan to review its implementation of CEDAW (Executive Assembly, 2014). This can be used as a viable model where state policies can be tied to major international treaties in the relevant issue areas, creating more international monitoring systems for the government.

Fig 10: International experts at the review of the CEDAW Second National Report in Taiwan on 24 June, 2014 (Photo taken by author)

Environmental activists have recently seen the value of transnational alliances, even if it is just to "get the word out there" (R. Winkler, interview, June 16, 2014). This will allow the environmental movement to work outside the political system and to seek partnership and collaborations beyond political party lines. The weakening of the

association and reliance the movement has on the DPP will let environmental issues be framed in a non-partisan way, allowing the movement to gain support across a broader spectrum of the society.

Conclusion: The Way Forward

The outlining of Taiwan's environmental movement history has shown the antecedents of Taiwan's environmental movement as part of a greater push for democratization in their alliance with the DPP. This perhaps explains the anti-KMT root of the environmental movement, for its very creation was based on the opposition to the pro-development stance of the KMT. However, the DPP's subsequent ascent to power saw it casting the environmental movement aside as it attempts to justify its ability to steer Taiwan's economy, while the KMT-dominated government bureaucracy continued making the implementation of pro-environmental policies virtually impossible. With the estrangement of the relationship with the DPP, the environmental movement is now aiming to represent itself as non-partisan, although its reliance on empathetic DPP legislators for support means this association is not that easily removed.

The three case studies above have also demonstrated the Taiwanese government's disregard for the environmental regulatory systems and the judiciary system in place to safeguard the rights of the people and the environment. Different factors also came into play in determining the success of different environmental cases. The success of the anti-Kuokuang Petrochemical Plant movement could be credited to the fact that it brought up very tangible issues of heath and food safety, utilized mass media to its advantage, and was essentially criticizing a building that had not yet existed. The anti-CTSP and anti-nuclear movements both saw battles that were more drawn out, as these buildings were already in existence and there is a greater cost for the government to just demolish them completely. For the anti-nuclear movement,

monetary compensation and infrastructure management, together with state propaganda about the absolute need for nuclear power, have also divided people's opinions on the issue. Ultimately, the success of these movements still hinges on how they will affect the election campaigns of politicians, further emphasizing the need to turn environmental issues into matters of public concern that will affect how constituencies vote for their leaders.

What the environmental movement needs to do now is evaluate its relationship with the DPP and consider whether the advantages of working with DPP legislators outweigh the risk of the movement being misconstrued as an anti-KMT movement. There is little reason for the KMT to pay attention to the demands and critiques of the environmental movements if they are perceived as hostile to the KMT by default. At the same time, the political maneuvering and disregard for systems of law by the KMT does open it up for constant attacks by the environmental movement.

It is thus important for the environmental movement to move beyond tackling individual environmental cases toward cultivating a more sustainable environmental consciousness in the population. By framing issues of the environment as ones of personal responsibility, environmental stewardship is passed from environmental groups to the citizens themselves, making the environmental movement one that consists not just of NGOs but also of the public. Moving beyond localized politics while still taking advantage of the mobilizing power of local communities will no doubt allow the environmental movement to gain a broader support base that is independent of political parties. Creating coalition between social movements in the country, seeking

solidarity with social forces such as religion, and adopting a more transnational outlook will also allow the environmental movement to become a more inclusive movement that can hold the government accountable by using both electoral votes and international treaties.

At the same time, it will be worthwhile to understand the insights that Taiwan's case might have for environmental movements in other countries. Taiwan is an excellent example of an environmental movement gaining strength when given the political opportunity during a declining authoritarianism, but it was still unable to enact comprehensive changes amidst a political gridlock. Social movements emerging from an authoritarian rule will thus face similar problems, especially when they align themselves with opposition parties that spring up with the onset of political freedom. Social movements that are incorporated into political movements will have to be aware of the difficulty in drawing support across the political spectrum when mass support and popularity becomes the deciding factor for who gets power in a democracy. At the same time, by transposing the case of Taiwan to an international context, we can study how the environmental movement in Taiwan might serve as a model for global environmental movements in their interface with national governments or transnational organizations. Currently, the Global Greens, an international network of Green Parties and political movements, has often chosen the entrance into politics as their method of enacting changes in policies, such as the fairly successful Alliance '90 in Germany and the Australian Greens. These Green parties often play the role of opposition parties in Parliament or as junior parties in a coalition government, putting their ability to

influence national politics and policies under question. More importantly, almost all Green parties that have attained a reasonable level of success are found in European countries, Australia, and New Zealand – what one might term the "Global North". It will be crucial to question whether such political involvement of environmental movements can be helpful in an Asian, African, or South American context and to seek other ways that environmental movements in the "Global South" can resist, organize, and gain support. The case of Taiwan has shown that political involvement might not be the ideal solution and that there is a need to find alternative modes of operations and interactions with the government that function outside the political system.

Just a few weeks ago, Taiwan held its local elections to elect Municipal Mayors, Councilors, County Magistrates, Township Chiefs, and other leadership positions. This was seen as an indicator for the support the public has for the policies of the current KMT government, and the results were telling. KMT suffered a devastating defeat, losing eight out of the 14 municipalities and countries it once held, while DPP and DPP-endorsed candidates gained executive control of seven municipalities and counties from the KMT, including KMT strongholds such as Taichung County, Taoyuan County, and Hsinchu City (Loa & Shih, 2014). One of the fiercest battles was for the seat of Taipei City mayor, of which the past three mayors had gone on to become the President. In the end, DPP-endorsed Independent candidate Ko Wen-je trounced KMT's Sean Lien, son of ex-KMT Chairman and former Vice-President Lien Chan. Ko actively courted youth voters, whose disdain for the old KMT politics eventually pushed Ko to victory. After his election victory, Ko expressed interest in recruiting Teng Chia-chi, a former Hsinbei District EPA

director and an anti-nuclear advocate, as one of his three deputy mayors (Ku & Kuo, 2014). Even though many perceived KMT's lost as a rejection of its recent pro-China policies, it is also the culmination of frustrations against its lackluster environmental policies and prioritization of corporations over the people (Gold & Hung, 2014). Out of the 22 newly elected Municipal Mayors and County Magistrates, 15 (or 68.2 percent) of them have openly opposed the continued operations of the older nuclear power plants (Forum Rightway, 2014). Taking responsibility for the loss, Premier Jiang Yi-huah resigned a day after the elections, with Vice President Wu Den-yih and the previous Taipei Mayor Hau Lung-bin resigning as vice-chairmen of the KMT two days later (Gold & Hung, 2014; J. W. Hsu, Dou, Liu, & Poon, 2014). The next day, President Ma resigned as Chairman of the KMT (Chyan, 2014). As a barometer for the Presidential and Legislative elections in 2016, pundits are betting on a return to power for the DPP.

Thus, it is now more important than ever for the environmental movement to position themselves on the political spectrum – should they keep their alliances with the DPP in hopes of more political participation in a DPP-controlled government, or should they look beyond party politics to become a truly non-partisan movement? After all, the DPP has its roots as an anti-governmental movement, before its transformation into a full-fledged political party. With its transition to a political party, priorities naturally changed as it tried to balance the demands of the economy while securing a voter base beyond social movement groups. The environmental movement thus has to figure out if they are willing to be subsumed under the umbrella of the DPP for support, or if it would rather maintain its integrity as a movement fighting for the environment,

regardless of political leaning. From the looks of it, the environmental movement seems to have drawn lessons from the last time the DPP was in power and chosen the latter option.

As environmental activists and lawyer Lu Shih-wei states,

> The loss of the KMT by no means spells a victory for the DPP. Rather, what the loss reflects, especially with the spike in youth voters, is the dissatisfaction civil society has for the KMT, not the support the citizens have for the DPP. Experience has shown that the DPP's ignorance towards social issues is not much less than the KMT's, and although many of the environmental movement's political alliances are made with the DPP, it is because the historical structure and attitudes of the KMT prevents any sort of alliance whatsoever with them. While I do not trust the DPP, what I hope is that the civil society in Taiwan gets stronger, that there is the birth of a critical third political force, that there will be political change so that the KMT does not continue staying in power, for it is only through making them the opposition party for a longer time might the remnants of their authoritarian past be obliterated. The end of this election marks the start of civil society's work to stand by our goals and objectives, and to begin our scrutiny of the government. The value of democracy is that the citizens can continually monitor the government, and through their votes, tell the government that the resources to put them in power do not belong to them – it belongs to us. (S. W. Lu, interview, November 29, 2014)

It is time for the environmental movement to broaden its base so that it commands the resources – voters – that can ultimately sway the fate of politicians. It is perhaps then that politicians will accord importance to environmental issues, seeing them as a demand from the people rather than political tools for the opposing political party.

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